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The New England
Journal of Medicine

VOLUME 204 APRIL 2, 1931 NUMBER 14

SYMPOSIUM ON THE PRACTICE OF MEDICINE IN RELATION TO PUBLIC HEALTH ACTIVITIES

THE following papers were delivered January 28, 1931, at a meeting at the Library arranged for by the Committee on Social Meetings of the Boston Medical Library and the officers of the Suffolk District Medical Society.

It seemed to those who arranged the meeting that the time had come to place before the medical profession of Greater Boston the position taken by the organized health authorities in their present program, and a discussion of their activities. Also, it seemed right to give practitioners of Boston a chance to say how these activities helped or interfered with their practice.

The whole subject is a very important one, particularly at this time when State medicine is beginning to be discussed quite seriously and is being practiced to a certain degree by our health officers. Unquestionably, there will be an organization of medicine throughout the State and a control of practitioners. It is necessary for the medical profession seriously to consider and advocate some plan which will be acceptable to them.

The writer feels that if this is not done, a plan less acceptable to practitioners will be forced on them by legislation. Therefore, he hopes that the doctors of Massachusetts will read the following papers carefully and begin to think about some scheme they could advocate and of a plan which they could back as fair to the lay public and acceptable to the largest numbers of doctors in the State.

HILBERT F. DAY.

MUNICIPAL PREVENTIVE MEDICINE

Boston's Program

BY CHARLES F. WILINSKY, M.D.*

I AM sincerely appreciative of the value and importance of this significant occasion which makes it possible for me to present to members of the medical profession the program and activities of the City of Boston in the field of public health, and which has for its objective the prevention of disease and the promotion of health. I feel keenly, however, the necessity for the presentation of facts and some figures in justification of a constantly expanding program by those entrusted with the responsibility for the protection of the health of the people of Boston and which has resulted in an increase in our annual budget in less than 15 years of from $300,000 in 1916, to over $1,000,000 in 1930 by the Department of Health and approximately $250,000 by the Department of School Hygiene.

Why the expenditure of all this money? Is it justifiable? Is it necessary? Is this program in keeping with the practice of the day and, in short, what is this public health?

It would appear fitting, at this time, to call attention to the rich tradition of Massachusetts and Boston since our very earliest days, not only in the treatment of disease but in the field of public health. The history of the early settlers of Plymouth Colony, the Massachusetts Bay Colony and Boston, itself, shows evidence of real public health interest. Samuel Fuller, Governor Winslow, Cotton Mather and Boston's first president of the Board of Health, Paul Revere, are names familiar not only to students of American history but to students of the history of health. These leaders and others of their time enacted varied legislation which was copied in later years in other cities and states of the Union.

Boston's health work, in a measure, may be said to have begun with the founders of our colonies and one pictures Dr. Samuel Fuller arriving on the Mayflower in 1620 and, with his wife, Bridget Lee, who served as a nurse, carrying on the work not only in Plymouth Colony but throughout Massachusetts. Interesting, indeed, to students of vital statistics is the fact that as early as 1639 Massachusetts provided for the registration of births, deaths, and marriages.

In 1648, because of epidemic conditions, sanitary legislation was adopted by the General Court of Massachusetts Bay Colony and in these early years laws were framed regulating offensive trades, establishing quarantine, isolating the sick, controlling pollution, etc. Throughout this period of our early history, smallpox was a frequent problem and the early efforts of the Reverend Cotton Mather for the provision of inoculation against this disease were earnestly and vehemently questioned. How modern an attitude! Attention is called to the public

*Wilinsky—Director of Beth Israel Hospital and Deputy Health Commissioner of the City of Boston. For record and address of author see "This Week's Issue", page 732.

health acts of Massachusetts in 1797, giving to the local Boards of Health power to abate nuisances and marking the beginning of exceedingly important authority and legislation which still exists upon our books. In the same year Boston established its first Board of Health with Paul Revere as its President.

A remarkable contribution was made by an illustrious son of Massachusetts, Lemuel Shattuck, who, as the head of a commission in the year 1850, wrote the report of the Massachusetts Sanitary Commission which has served not only as a model but as an inspiration for health and sanitary legislation. Massachusetts, approximately 60 years ago, established the first State Department of Health in the United States and in the year 1894, opened what was probably the first state tuberculosis sanitarium at Rutland. Boston, in the same year, was the first city of the United States to establish school medical inspection, a service for the protection of the health of the school child now universally acknowledged and accepted as necessary.

I shall not burden you with the changing pictures during the evolution of the Boston Board of Health from 1797 to today, which has varied in composition from a period when the Board of Aldermen as a whole constituted the Board of Health to the present administration by one person designated as Health Commissioner and charged with the responsibility of exercising the power and performing the duties relative to the protection of the public health.

From time to time, various legislation was adopted locally, having for its objective the prevention of nuisances, the elimination of contagious disease, the seizure and removal of unfit food, the regulation of quarantine, inspection of milk, employment of a city physician, etc., and also including at one time the collection of ashes and garbage, which was afterwards transferred to the Department of Public Works.

Allusion has been made already to Boston's priority in the medical inspection of school children, which was carried on under the auspices of the Health Department officially beginning in 1894 and transferred approximately 20 years later to the School Committee of the City of Boston. Some of the other functions exercised by the Departments of Health in other cities, such as the hospitalization of acute communicable diseases, are carried on in Boston under the City Hospital and the registration of births, deaths, and marriages by the Registry Department.

ORGANIZATION

The organization of the Boston Health Department by city legislation is divided into the following distinct divisions, which carry on specific services:

The Medical Division, Division of Child Hygiene and Health Units, Tuberculosis Division, Sanitary Division, Laboratory, Food Division, Division of Vital Statistics, Records and Accounts, and Nursing Department. Each of these divisions is under the direction of a Deputy Commissioner.

The Medical Division is charged with the responsibility of visiting, quarantining and revisiting cases of communicable disease and of furnishing diagnostic facilities in this field to the medical profession. It is to this branch of the Health Department that communicable diseases are reported by doctors and where these cases are tabulated and filed. This division also assumes the responsibility for the isolation of unusual cases such as smallpox, leprosy, etc., which are sent to the detention hospital on Southampton Street maintained by the Health Department.

The Tuberculosis Division, under the supervision of a Deputy Commissioner, is responsible for a chain of clinics located in the Health Units and in other municipal buildings, which furnish facilities for the early diagnosis and detection of tuberculosis. Preventive work in the field of tuberculosis is carried on by this Division through the instrumentality of the solaria upon the roofs of the Health Units, to which malnourished children exposed to tuberculosis in their homes are brought.

The Nursing Department, under the efficient leadership of its director, consists of a group of approximately 150 nurses and supervisors. This department furnishes nursing service to the Medical, Child Hygiene and Tuberculosis Divisions. The duties of these nurses are to visit the new-born, visit cases of tuberculosis and other cases of communicable disease, assist at the clinics, and promote health education.

The Division of Vital Statistics and Accounts concerns itself with the purchase of supplies for the department, as well as the tabulation of vital statistics, thereby permitting a working knowledge as to the incidence of certain diseases in Boston.

The Laboratory Division is in charge of a Deputy Commissioner and furnishes laboratory diagnosis for members of the medical profession and others carrying on the usual laboratory procedure and research work, etc.

The Food Inspection Division is concerned with the control and supervision of food, drugs and milk supplies. Its personnel inspects the sources and distribution points of our milk supplies, enforces the "Food and Drug Act," inspects food establishments, the abattoir, etc.

The Sanitary Division, with a personnel of about 50, is responsible for the examination of tenement houses, cellars and yards, for the purpose of solving the problem of nuisances and sources of filth, including stables, dumps, etc.

The Division of Child Hygiene and Health Units is charged with the responsibility for a program for infant and child health, as well as for the administration of the Health Units. While a Child Hygiene Division was first created in the Boston Health Department in 1910,

it was really supplementing and duplicating the service of the Baby Hygiene Association, a voluntary agency occupying a prominent position in this phase of health work. Late in 1924, the Health Department accepted the responsibility for the development and carrying on of the child hygiene program for baby and pre-school age children and took over the clinics maintained by the private agencies.

Eighteen baby and pre-school age clinics, seven of which are located in Health Units and the others in municipal buildings, conducting 30 weekly conferences, are maintained in various sections of the city, to which approximately 60,000 visits are made annually by mothers who bring their babies and pre-school age youngsters for periodic medical supervision. Vaccination against smallpox and typhoid, immunization against diphtheria, examinations for camps and day nurseries, prophylactic dental service for pre-school children, the testing of school children's vision and the promotion of health education as a whole are carried on in this Division. Affiliation with Harvard, Tufts and Boston University Medical Schools makes possible the attainment of a high quality of pediatric service and furnishes teaching facilities for these institutions at the various child health clinics. Nurses from the Nursing Division, as already alluded to, visit the homes of every newborn and stress to the mothers the importance of periodic medical supervision, endeavoring to interest parents to go to their family physicians or to the clinics maintained by the Department of Health for these examinations. Breast feeding is stressed and necessary habits for good health emphasized.

The most important factor to contend with in Public Health work is ignorance and the answer to the problem would appear to be health education intensively carried on in the homes through the influence of the physician and nurse.

The child health stations to which mothers bring their children present opportunities for physicians and nurses in the necessary training of both parents and children in proper health habits which may not only be expected to remain through life but which may be passed on to succeeding generations.

The first Health Unit (Health Center) was opened on Blossom Street in 1916, having for its objective the correlation and coördination of health and welfare effort made possible by bringing together under one roof agencies engaged in this field. The success of this experiment influenced the Trustees of the George Robert White Fund to build a series of these Health Units in such sections of the city as appeared to need them the most. Seven units are now functioning in the congested sections of the city and house the official and voluntary agencies in the field of health and welfare. It is quite readily agreed that an adequate program for the maintenance of satisfactory standards of community health are influenced by social, hygienic, and economic factors, and in order to obtain the most satisfactory results, it appears necessary to bring together physically, whenever possible, agencies engaged in this field; this has been accomplished through the development of our Health Units. Here a program is carried on for prenatal service, infant and pre-school child health, immunization against certain diseases, mental hygiene service, tuberculosis clinics and preventoria upon the roofs. Here children are examined for camps. The presence of the welfare agencies—Protestant, Catholic and Jewish—furnishes an excellent opportunity for direct contact between the health and welfare worker and the speedy solution of their problems. The invisible line of demarcation between poverty and disease more than justifies this intimate alliance within these buildings. To the Health Unit the school nurse takes children for dental service, tonsil and adenoid examinations, and for such other service as the school physician and nurse believe may be obtained at the Unit.

Pre-natal clinics maintained by the Lying-In Hospital and the Massachusetts Memorial Hospitals may be reasonably expected to play an important part in the reduction of the hazards of pregnancy and child-birth.

Through the splendid coöperation of the Forsyth Dental Infirmary and its director, Dr. Percy Howe, and the efforts of Dr. Griffin, the dental coördinator of the Department of Health, an intensive program of prophylactic dentistry for the pre-school and young school child is being carried on. Over 56,000 children were treated in the Units during 1930. The care of the teeth and the hygiene of the mouth as factors in health are being increasingly recognized.

Allusion has been made to the splendid work of the Division of Tuberculosis carried on at the Health Units both through the medium of the tuberculosis clinics for the examination of active cases, as well as contacts, and the preventive work on the roofs of the Units under vita-glass. Carefully selected malnourished children predisposed to tuberculosis are under intimate supervision and they receive their food, play and rest in the most beneficial way, registering remarkable improvement during the months of their stay. In returning home every evening, they serve as an influence for better hygiene in the home because of the lessons taught them during the day. The fairly recent decentralization of the tuberculosis work by the establishment of a number of clinics in various parts of Boston which offer facilities for the early diagnosis of this disease may be expected to play an important part in the reduction of this scourge in our community. During 1930, 10,465 tuberculous patients visited the clinics in the Health Units and 4,000 more attended the tuberculosis clinics held in municipal buildings. Boston, in 1930,

had a tuberculosis death rate of 68.6, which compares exceedingly favorably with other large cities in the world.

Responsibility for the administration of the individual Health Unit is vested in a Medical Inspector employed by the Department of Health upon a full-time basis. He performs the various medical routines at the Unit and serves also as Health Officer of the district. He immunizes against disease, examines for camps and day nurseries, visits the parochial schools and homes, passes upon isolation and quarantines for communicable disease—in short, he is the Health Officer in the district.

The Health Units serve as local headquarters for the Community Health Association, which does such splendid work in the field of bedside nursing, and are also call stations for the Boston Dispensary free physician for the poor of the district.

Efforts are made to obtain the coöperation of general practitioners in the neighborhood where Health Units are located and invitations are extended to have the Unit serve as local headquarters for their medical meetings.

In speaking of the municipal health services, may I call attention at this time to the work of the Department of School Hygiene so splendidly developed by the late Dr. Ceconi? The health of the school children of no city is more zealously safeguarded than in Boston because of the efforts of the fine corps of more than 50 school physicians and a staff of nurses under the capable direction of Miss McCaffrey.

May I pay tribute to the part played in the control of communicable disease by the hospitalization facilities of the City Hospital both at the South Department and at Mattapan?

I have endeavored to enumerate the municipal activities of the City of Boston in the field of Public Health and believe it pertinent at this time to raise the question, "Is the expenditure of a considerable amount of money for the maintenance of this work justifiable?"

It is quite readily agreed that community welfare is served to the best advantage by an increase of adequate health service and that the genuine accomplishments in the field of public health have been, in a pronounced measure, a great influence upon the lives of our people. The illnesses of generations ago are no longer a part of our daily environment. Bubonic plague, malaria, cholera and yellow fever are no longer in our midst. Smallpox and diphtheria serve as indices of the potential possibilities for the elimination of specific diseases in our community by the application of definitely known measures.

There is a splendidly growing appreciation of the fact that the greatest achievement and contribution in medicine has been in the prevention of disease and more and more we are beginning to realize that the health of the people is an essential to happiness and prosperity and therefore becomes not only the concern of the individual himself, but also the concern of the state. Our leaders with vision, mindful indeed of the accomplishments of curative medicine, cry for that better understanding on the part of the practitioner for the romantic side of medicine, which has, through the sanitation of the environment, the control of communicable disease, and the promotion of personal hygiene, raised the standards of health. It is exceedingly difficult to really find the line of demarcation between treatment and prevention and to distinguish where one begins and the other ends. A realization of the vast field to be covered and the forces necessary for the promotion of adequate public health for our vast population calls not only for the coöperation, but for the active participation, of the entire medical profession.

Much has been accomplished in the last half century. Fifty years ago the average span of life was 40 years; today it is 57. We are informed that 7 more years can be added to the span of life by the application of already proven preventive principles. To whom else shall we look for the accomplishment of this altruistic objective than to the members of the medical profession at large?

The infant mortality rate in Boston has been cut in two in the last thirty years. Boston, with an infant mortality rate of 130 in 1900, had the lowest in its history in 1930—68 deaths during the first year of life for every thousand born. Typhoid fever has been practically eliminated as a cause of death in our community. Diphtheria, which caused approximately 225 deaths annually in Boston 10 years ago, was reduced to about 25 deaths in 1930. Vaccination against smallpox by intelligent communities has served its purpose well. It is important to remember, however, that too many people are still dying from tuberculosis in Boston, as everywhere else; too many mothers are dying in childbirth, and too many babies are dying from preventable causes before the age of one. It cannot be denied that this is a community problem. President Hoover, in his address at the recent White House Conference on Child Health, said that "if we could have but one generation of properly born, trained, educated and healthy children, a thousand other problems of government would vanish". It is in the child-age group that the greatest opportunities for life-saving may be found because it is in this group that we have our greatest mortality. We can only improve the general health of the country and increase the span of life by a vigorous campaign for life-saving, since approximately one-eighth of all deaths occur during the first year of life.

It is important to call attention, at this time, to an increasing consciousness by the community at large of the possibilities which exist in the field of prevention of disease. Our citizenry is

no longer content to sit idly by while the children of their city are dying of diphtheria and those in an adjacent community, whose people are alive to the possibility for the prevention of this disease, have not had any material number of deaths from this cause for several years. Education, the beacon-light of American progress, is teaching our people more and more that public health is in a marked measure purchasable. The constantly increasing realization that human life is our most priceless and material possession and that the nation's greatest asset is the health of its people challenges the imagination and knowledge of the Health Officer and the proper answer to this challenge lies in the development of adequate health service.

This business of health is no one man's job, however, and it cannot yield the rich dividends desired without the proper coöperation of the public health forces and the medical profession.

What is expected of the Health Officer? What are his functions and his relation to the community at large? We expect of our public schools a system of adequate education; of our police departments, the enforcement of law and order and the protection of life and limb; of our fire forces, protection from the hazards of fire. Is it not reasonable that we expect from our Health Department a program for the conservation of health and the prevention of disease? The intelligent health officer's concern and obligation will be to develop a harmonious relationship with the medical profession and an increasing interest on their part in the program of the Department of Health, as well as to do everything possible to stimulate the practice of preventive medicine in their offices.

I am mindful of the very important part played daily by the medical profession in the field of public health. The reporting, isolating and treating of communicable disease, the vaccination against smallpox, the correction of minor physical defects and the participation in baby clinics and school hygiene are but some of the activities of the practitioner of medicine in the field of public health.

I desire to emphasize that the aim and purpose of the Health Unit is to serve as a health center committed to the prevention of disease and duplicating no effort of any other existing dispensary or other service. Its objective is to emphasize the need for services conducive to good health and it is happy to refer to the general practitioner or hospitals cases requiring curative treatment. It endeavors to point out to the individual not only the value of good health but certain necessary measures for the remedy of necessary defects. This should serve to increase the practice in the offices of the physicians in the neighborhood, since it would appear logical that the campaign waged at the Units for the prevention of disease and remedy of defects is bound to increase medical practice.

For the general practitioner to appreciate and sympathize with the problems and responsibilities of the health administrator, it becomes necessary for him to step out of his character frequently as physician and become, if only for a few moments, an interested citizen of his community, concerned with communal betterment, desirous of adequate facilities for education, appreciative of the value of police and fire protection and sympathetic with the need for the development of adequate standards of health. He must remember that public health has made too much progress and its results have become too well established for the individual so-called rights and privileges of the practitioner of medicine to serve as a barrier for local public health progress. The Health Officer of a community must prevent smallpox and typhoid, he must reduce tuberculosis and diphtheria and must be interested in maternity and infant welfare,—in short, in the general health of his community. He must remember at all times that public opinion is the dominating factor in the changing order of things. As the public becomes increasingly healthier minded, it will demand that type of medicine which will not only cure but will also prevent disease. The bugaboo or reality of state medicine can be sidetracked by an increasing participation in the preventive field by the rank and file of the medical profession, as well as by the development of organization which will make it possible for the poor to receive care through the organized clinic and the people of moderate means and wealth from their own physicians. The doctor of tomorrow must develop an increasing communal consciousness, think more in terms of community health.

I have dared to divert from the title and subject of this paper because of the great need for the justification of the program of Health Departments created on account of the unrest in the ranks of the medical profession who see in the constantly expanding programs of health departments paternalism, socialism, and all sorts of a not-too-far-distant state medicine.

I have but one definite assertion to make and but one suggestion to offer,—the assertion that Health Officers are charged with the responsibility for the promotion of health and the prevention of disease in the community of which they are a part. This service must be offered to the people either in the offices of their private physicians or in organized clinics. The more this type of practice will prevail in the offices of the physicians, less will be the responsibility and concern of the Health Officer for the provision of necessary clinics and fainter will become the cry of State Medicine. To the practitioner of medicine I would dare offer the advice that he speedily adjust himself to the modern trend of medicine and that he place him-

self not only in the position of a repair man to the sick but serve also as health counsellor and advisor to the well.

In Sir Thomas Moore's Utopia, the physician, one of the most important cogs of government, is not only charged with the responsibility of the sick, but with the problem of keeping people well. Diseases, long the serious enemy of man, have been almost conquered by the medical profession to whom I gladly pay tribute. How happy we should be that the modern field of medicine is rapidly approaching Utopia because of the vision and unselfishness of the medical profession!

THE INFLUENCE OF BOSTON'S HEALTH PROGRAM ON THE PRACTITIONER

BY EDWARD F. TIMMINS, M.D.*

WHEN Dr. Hilbert F. Day paid me the compliment of asking me to speak for the practitioners, he meant to be fair to all concerned. I wish that the abused practitioners had a better spokesman. However, it is a significant and hopeful sign that they are considered at all. They often allude to themselves as the despised majority of the Massachusetts Medical Society. Perhaps they are now to have their "bad quarter of an hour" in court.

"The Influence of Boston's Health Program on the Practitioner" will not be discussed exhaustively. I shall try to present some aspects of it that the practitioners believe are too seldom emphasized or are too assiduously ignored.

Let us agree at the outset that Health Departments do, and should, have an educating and a stimulating influence on the practitioners. They are bound to get ideas from the literature and the observed activities of Health Department campaigns. The toxin-antitoxin campaign of a few years ago instructed many of our practitioners in the efficacy and in the easy administration of a new immunizing agent. The various preventive medicine projects of the Health Department, whether they approve of them or not, are sure to set the practitioners to thinking, as well as to worrying, perhaps.

What is the importance of the practitioner anyway? Perhaps this importance is waning. But it would seem necessary to realize, that, even yet, in this advanced age, the neighborhood practitioner cannot be dispensed with until great minds invent something adequate to take his place. The concert of European powers used to agree but seldom, in the old days, but they seemed to agree for years that that disintegrating anachronism, Austria - Hungary, should be kept alive, because no one could devise anything as good to take that sclerotic empire's place.

The neighborhood practitioner is the original health unit. In most situations, his eyes are the eyes of the Health Department to which he reports his discoveries. He is the main reliance of the community as long as his coöperation and advice are the first sought for the detection and the isolation of most cases of communicable diseases. He still is the first medical man on the spot in most situations.

It is the important function of health authorities to prevent the occurrence of preventable diseases, or to limit their spread when the inevitable accidents occur. In addition to that, health authorities must encourage and keep informed on those unremitting researches which promise to add new items to the list of preventable diseases. In a way, there might seem to be a natural antagonism between Health officials and practitioners. Health officials must be constantly conspiring to cut down the practitioner's sources of income.

There might seem, also, to be an inevitable antagonism because of the Health Department's disciplinary powers in the case of delinquent practitioners. However, most practitioners appreciate the need of such activities and powers. They would be the first critics to assail a Health Department that was lax in such duties.

Health authorities have been eminently successful in reducing the incidence of several once-common diseases. The occurrence of typhoid, formerly anticipated every September as a certainty, is now so rare that medical schools find it difficult to get teaching material. That the prevalence of tuberculosis is exceedingly reduced is common knowledge. The Great White Plague no longer crops up inevitably in nearly every person's circle of acquaintances. Diphtheria is another case in point. The active campaign of toxin-antitoxin administration, started by the late Dr. John A. Ceconi, as a Health Department official, and continued by him and by Dr. Wilinsky in both the public and parochial schools, has caused a spectacular reduction in the number of cases of this dreadful disease. I believe that almost every practitioner fervently wishes that this disease could be more effectively prevented in children under five years of age. Of course, he might contribute some help toward this, if he would be more active in advising toxin-antitoxin injections for these susceptible ages. The fatalities and the near-fatalities in the laryngeal diphtherias of infants are so horrifying that every practitioner would bless the day when preventive methods would abolish such disasters. These cases are more apt to wreck a reputation than to build up a practice.

Another large category is that of milk-borne infections. Health officials have enforced such improvements in dairy methods that in recent years they have brought about a tremendous and scarcely hoped-for reduction in the great variety of diseases which are milk-borne. When some-

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body perfects a moderately priced apparatus for pasteurizing milk bottles after they are sealed, we shall have made another great stride toward making milk safe for democracy. The newspapers no longer tell of such harrowing scenes as when an overcrowded floating hospital was forced to leave on the wharf scores of frantic mothers, who were only half pacified when promised an extra night trip for the benefit of their septic babies. The Floating Hospital no longer floats. A tabulation of the lives saved by the reduction in the milk-borne diseases, not only of babies, but of adults, would pile up a total that would look fully as impressive as that of the oft-quoted miracle at Panama. It has always been held that "the curve of diarrhoeal diseases controls the curve of infant mortality". Well, that curve has been almost inverted (to exaggerate a bit).

By these glorious achievements of modern health administration our health authorities have been exceedingly influential in cutting down these sources of a practitioner's income. It is more than possible, for instance, that my father could have paid for my entire medical education with the receipts from the numerous cases included in the above category. Only a few years ago, every practitioner had many consumptive patients, who lingered for a long time, and who generally insisted on being treated in their homes. Typhoid cases were fairly common every fall. Many of these were treated at home, if they were not severe in type. The numerous diphtheria and scarlet fever patients were decidedly sick and required many home visits. Infantile diarrhoeas kept practitioners on the jump, so that the summer months, instead of being comparatively slack seasons, were almost as exciting as the spring months, when respiratory infections were rampant.

As a class, the practitioners are not inhuman or mercenary enough to regret these benefits to mankind. Their own families are less in danger. Indeed, they would bless the day when some investigator would discover a cure for poliomyelitis, for whooping cough, for cancer, and for many other scourges.

The preventive measures thus far discussed have not been peculiarly applied to any type of neighborhood. But, of course, they concern those diseases which are disproportionately prevalent in the congested districts.

Now we shall discuss the influence of that part of the Boston Health program which does concern the congested districts. This is the kind of campaign outlined by Dr. Wilinsky, which centers very much around the recently elaborated Health Units. This program of municipal preventive medicine influences most particularly those practitioners who live in the vicinity of the said Health Units. As I happen to be one of those who live in the vicinity of a Health Unit, I think that I know something about their works and pomps. As I took a small part in the opening ceremonials of my local unit, I have, naturally, taken an interest in following the career of that picturesque neighbor.

How do the local practitioners react toward the Health Units? Well, practitioners, like other people with individualism and intellects, have varied reactions, varied opinions, varied antipathies, and varied phobias. It is correct, however, to summarize the reactions of the majority by stating that most practitioners distrust the tendencies of many of our restless pioneers, who are experimenting fully as much in the province of sociology and economics as they are in their legitimate fields of medicine. They think that some of our medical leaders classify the practitioner as a preventable disease. These unsympathetic gentlemen seem to regard the practitioner as an enemy of health rather than as an enemy of disease. Of course, the chiropractors and the medical liberty leaguers think the same way.

Practitioners may be suffering from suspicion disease. Be that as it may, they are apprehensive and distrustful of experimental reform's next moves. They are taking some of their outspoken critics at their word. In the meantime, they scrutinize every program for sinister features. They fear that their practice may be doomed, like a Chinese criminal, to die "the death of a thousand slashes".

Several unfortunate episodes have irritated the medical men of my vicinity and have made them suspect the Health Department of acute inflammatory aggressiveness long before the establishment of a local Health Unit. These episodes were due to the tactlessness and inexperience of certain Health Department nurses, when first learning the technique of home invasion. These nurses were inaugurating the system of baby clinics. They were over-vigorous proselytizers. The nurses visited the homes soon after a birth was reported. They were evidently instructed to take a particular interest in the progress of artificially fed babies. Very soon the physicians, myself included, were informed by several irritated patients that the Health Department was sending nurses to them who were pestering them with insistent requests that they take their infants to the baby clinics for weighing, and particularly for examination by a specialist. When the mothers said they did not want to go to any public clinic, because they preferred the advice of their family physician, they reported that the nurses registered disappointment and irritation, and started to argue that the clinic Doctor was no mere *Doctor;* he was, indeed, a *Specialist.* On comparing notes with one another, the practitioners became alarmed and decided that the Health Department was becoming too phagocytic. Their private patients were being persuaded that the family practitioner was not the best type of man to size up well babies, although he may have been surprisingly able to diagnose the sex.

Those patients, if tactfully taught to distrust his knowledge of well babies, might well be afraid to trust him with a sick one. There were disturbing stories, also, of the technique of another nurse, who impressed the public with her suspicions of the practitioner's fidelity in dropping nitrate of silver into the eyes of the newborn. Was it a fact that anybody really saw the physician use the drops? Were they white drops, or black drops? Patients are apt to distrust a physician of whom the health officials are so suspicious.

Most practitioners feel that the alienation of their patient's confidence is no peace move. Those of us who know Dr. Wilinsky are downright sure that such nurses went beyond the spirit of their instructions. When the school nurses first went into the homes, many parents resented their methods. Many nurses had much to learn about handling the public. Also, the public have to learn not to misinterpret a nurse's attitude. Any new remedy may have its untoward effects. The fact is familiar that whenever a nurse or a social service worker visits a happy home, the complications and sequelae of that visit are unpredictable, especially if the said emissaries have more zeal than tact, and more confidence than experience. When they have a flair for sex-analysis, the complications cumulate. These were the incidents that made the local practitioners feel that the Health Department was going to make municipal wards of all the babies whose births they were bound by law to report to their new enemy.

There is small wonder, then, that the profession looked on the new sumptuous, spick and span Health Units as presumptive metastases of a malignant process.

Now let me state sincerely my own private opinion of the Health Unit, as exemplified by the specimen in my district. It is a very cleverly designed, ingenious, and elaborately equipped monument to the energy and organizing genius of Dr. Wilinsky. Architecturally, it is a splendid example of what a first-class architect can do in achieving exquisite architectural design without subordinating the utilitarian requirements of the edifice. It is only fair to the memory of a magnificent benefactor like George Robert White that his generous bequest would be expended on dignified and splendid structures that would typify his magnificent philanthropy.

This attractive architecture has been of priceless value as a publicity feature, especially since the building was erected on a conspicuous and central site. Such an imposing structure inevitably excites curiosity and inspires confidence. Everybody was anxious to investigate it long before it was opened. There was no great need for pernicious persuasion on the part of the nurses. The public were anxious to flock to it. Those who instinctively had shrunk from being herded in a clinic became more herd-minded. Those who had too much self-respect to go to a charity clinic walked proudly into the municipal clinic, with the air of proprietorship that a citizen may feel in a municipal hospital, if some rude attendant does not order him back into line.

Because of untoward incidents, it was hard for many practitioners to be undisturbed by the intrenchment of these supposedly hostile activities in an imposing, convenient, and inviting Health Unit. They might be malignant metastases of an infiltrating parent body. They might be benign for a few years and then turn malignant.

There is no reason why the Health Department should not work to the same advantage through local branches as does the Library Department, or the Police Department. There are advantages to decentralization.

When the local profession wants either the advice or the backing of a local health officer, it is a distinct advantage to have such a capable and obliging official as Dr. Keeler in ready access at the local unit, where one can come to a prompt understanding. It is a decided help to the local practitioners, whether they appreciate it or not, to have a handy distributing center in their midst, with a full stock of the less common biologicals like diphtheria toxin, toxin-antitoxin, vaccine and many other preparations which are not stocked by the culture stations.

Of great benefit to the children of the community is the splendid dental clinic, which is so capably managed by Dr. William H. Griffin, and which is helping such throngs of children. The local dentists are not deprived of any desirable practice because of the vast amount of dentistry done for the school children in these clinics. Dentists would never be paid for this work. If these teeth were not to be saved here, they would be lost altogether. It saves the school nurses a lot of time that would otherwise be lost in the transportation of children to the overcrowded clinics at the Forsyth Infirmary and at the Dental Schools. Another important advantage of having dental clinics in the immediate neighborhood is that operators can attend to the school children's dental needs during the summer vacation season when the school nurses are off duty.

Another splendid feature of the Health Units is the establishment of local clinics for the tuberculosis cases. The local practitioners have at their disposal a splendid x-ray equipment. They can get expert film readings on their suspicious chest cases, and helpful coöperation in the hospitalization of such cases as they want to refer for sanatorium treatment. I can only cite in the highest terms of praise the incomparable work which the tuberculosis department is doing in the nutrition class for infantile contacts, in the picturesquely placed sun parlor on the roof.

Every practitioner approves of this type of

preventive work. It is an observed fact, then, that the Health Unit is tremendously appreciated by the people of the community. They have availed themselves of its services to such an extent that the practitioners perform very few vaccinations in the course of the year, and they scarcely ever are consulted about milk formulae for bottle-fed babies. Those of us who had a good reputation in the community for our success in infant feeding have seen that important and satisfactory branch of pediatrics practically fade away out of reach.

Now that the practitioners have noticed the premonitory squeezes of the Health authorities' potential strangle-hold, they are naturally apprehensive of the next aggressive program that may be adopted. They feel that Dr. Wilinsky has always used a nice discrimination, and has not gone beyond his legitimate province. They are sincerely sure that they can absolve him of any unfair or hostile technique. But they are disturbed over the possibility of a new aggressive program. It is one thing to prevent disease, and it is another thing to alienate patients, to short-circuit, and to redistribute the medical work which still remains to be done. Dr. Wilinsky's energy, initiative, and ability have procured for him such a national reputation that he may be called away, perhaps, to the Rockefeller Institute, or to Washington, or even to Geneva. A new Alexander, with less judgment, but with plenty of feverish energy may want to plunge ahead more recklessly on paternalistic lines, in order to seem to be as ingenious, and as progressive as his spectacular predecessor. The practitioners feel that Dr. Wilinsky has created such an elaborate organization, as to fairly tempt any restless successor who is anxious for fame as a pioneer.

If you start flirting with municipal medicine and even sincerely deny to yourself that you are aiming for State medicine, do such sincere denials have any influence on events? Do those sincere assertions keep evolution from evolving? This very republic in which we live (and prohibit) did not start in a planned or purposeful way. Remember the pseudo-Indians who rushed enthusiastically down Milk Street to throw some tea overboard. They did not realize that they were throwing the king's crown overboard with a simultaneous splash. They did not recognize the wet beginnings of a dry republic. They did not suspect that they themselves were taking *such* a fateful plunge. Perhaps we should hesitate to throw the general practitioner overboard, until we have something adequate to take his place. Neither the panel system, nor insurance medicine will work here any better than they have in England or in Germany. The community still needs the practitioner. The community will get just as good a practitioner as it deserves, or as it supports. If you make practice difficult and unattractive in the city sections, the practitioner will migrate to the suburbs. Preventive health programs have not succeeded, as yet, in making the general practitioner altogether unnecessary, but if badly conceived, they may seriously impair his prestige. No capable, intelligent man will remain in general practice in a neighborhood that will send for him only in emergencies, in the late hours of the night, when free clinics are closed. If you make practice a dog's life, you will have nothing but sad and sorry types of dogs for your practitioners. The time was when fully as many of our best medical scholars went into general practice as went into the specialties. In fact, general practice in the past has been graced by many scholarly and cultivated men, who ranked high in their classes, and who were well trained in our best hospitals. Many were trained in the days of mixed services, before it became the fashion to develop medical intellects on hemiplegic lines. It is dangerous to be indifferent to the extinction of such types of practitioner. Remember the regrets of that Ancient Mariner who shot the albatross without any real malice or aforethought. His postmortem regrets were more poignant than curative. They were insufficiently retroactive. All the king's horses and all the king's men will not put the family practitioner together again, after he dies of deficiency diseases or of unwittingly defamatory technique.

I shall close these reactionary remarks by quoting what Dr. Milton J. Rosenau has written on page 487 of his standard textbook on "Preventive Medicine and Hygiene": "A good health program cannot succeed in the face of opposition of the medical profession. The proper relation is a serious and difficult problem." No man of my mean abilities can solve such a serious and difficult problem in a fifteen minutes' discussion. I would not promise to settle it well in fifteen hours. But I think that these aspects of the problem should be brought to your attention for consideration. You may not agree with Dr. Rosenau's emphasis, but I feel that most thinkers will agree that the morale of the practitioner is an important thing to consider, and that his resentful disaffection is an important condition to recognize.

Dr. Wilinsky gave the practitioners some consideration when he asked for the opportunity to visit our local Medical Society to explain his aims. He also showed a fine sense of courtesy when he invited them most cordially to hold their monthly meetings in the local Health Unit. I hope that I do not seem to damn with faint praise either his efforts, or his tact, or his intentions. I admire him for his ability, for his public spirit, for his astonishing zeal, and for his courageous efforts to devise new schemes for promoting the public health. If any less gifted man plunges ahead with half his pioneer spirit, the results may be less splendid and more disorganizing.

THE BOSTON HEALTH LEAGUE'S PLACE IN BOSTON'S HEALTH PROGRAM

BY GEORGE CHEEVER SHATTUCK, M.D.*

HISTORY of the League—The chaotic conditions which existed twelve years ago in the health field in Boston led to a series of conferences beginning in July 1919, and resulted in the formation of the Boston Health League in June 1920. The Articles of Agreement were signed by sixteen agencies. Any agency, public or private, which was engaged exclusively in public health work in Boston, or which had a section or committee engaged in public health work, was eligible for membership in the League.

At first, the League functioned informally for the discussion of health problems in Boston, but in April 1921, the Boston Metropolitan Chapter of the American Red Cross provided the League with funds for a two-year program of intensive study of the existing health activities in East Boston.

In September, 1922, the League was incorporated, and in March, 1924, it became officially the Department on Health of the Boston Council of Social Agencies, which is a larger and broader federation of welfare organizations. Since the latter date the League has been concerned chiefly with city-wide health problems.

Organization—The Honorary President of the Health League is the Health Commissioner of Boston. The President now is Dr. John W. Bartol. The work of the League is conducted by an Executive Committee with the advice and assistance of a considerable number of subcommittees which it appoints. The officers of the League and the other members of the Executive Committee are chosen annually by vote of the representatives of the member agencies. The paid staff is very small.

The broad problem of health has been subdivided into smaller fields, each of which has its standing committee, e.g., health education, tuberculosis, mental hygiene, or public health nursing. Some of these standing committees have been at work for several years, but the duties of other committees are ephemeral.

For committee service, the League has often called upon persons who are not connected with it through any member agency, and such persons have nearly always responded because they have approved the purposes of the League.

The League Membership comprises thirty-two agencies, which are engaged, partly or wholly, in the promotion of better health for the citizens of Boston. Among the members are three official agencies, namely, the Massachusetts State Department of Health, the Boston Health Department, and the Department of School Hygiene of the Boston Public Schools; and one semi-official agency, namely, the Boston Metropolitan Chapter of the American Red Cross. A large majority of the member agencies, however, are of a semi-private nature. Among them are hospitals and dispensaries or their social service departments, and a large number of welfare organizations which are conducting various kinds of health activities.

The Purpose of the League, as stated in the first annual report, is "To procure the greatest possible efficiency and economy in the development and dispatch of public health work and the maximum of service through the close coöperation and coördination of the work of the existing public health agencies in the City of Boston."

Policy—In pursuance of this purpose, the League has frequently arranged conferences between representatives of agencies doing similar work. Thus, opportunity has been provided to discuss problems of mutual interest, to iron out difficulties, or to improve or to extend the services offered by said agencies to the community.

The efforts of the League have generally been fruitful because it aims to conduct discussions in a friendly atmosphere. Thus, a spirit of mutual help has repeatedly been developed where it had not existed before, and consequently discord has given way to coöperation.

Other policies of the Health League also have enhanced its usefulness in recent years. The League has refrained from undertaking any administrative function outside its own office. It seeks to promote and to facilitate coöperation and improvement in the health field, but accomplishment rests entirely with the agencies participating actively in the work, and the League never encroaches upon their authority.

The League seeks to represent the opinions of persons who are familiar with health problems and who are alive to the opportunities which exist in Boston for improvement in services of this kind.

The League assumes that the best interests of the public are paramount in health matters, and has this goal in mind when considering the point of view of the medical profession or of individual welfare agencies, whether public or private.

Activities—In its earlier years the League organized the nucleus of a Health Unit in East Boston, and it has followed every step in the development of the chain of Health Units with which the City has been provided through the wisdom of Mayor Curley and the generosity of the late George Robert White. The Mayor and the Health Commissioner appreciated the importance of decentralizing the work of the Health Department in order to bring it into closer touch with local public needs and they

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saw clearly the advantages of close coöperation between public and voluntary agencies working together in the field of health. Thus, every Health Unit in Boston has become, not only a miniature Health Department, but also, a center in which official and unofficial health workers pull together, as it were, in the same boat. The influence of the Health League has been exerted steadily in favor of this kind of coöperation.

The Health Units of Boston were not modeled upon those of any other city. Nothing quite like them had previously existed anywhere. They have been adapted closely to the needs of Boston and their organization has been admired by visiting health experts from many parts of the world.

In its earlier years, also, the League was instrumental in preparing for, and arranging the transfer from, the Community Health Association to the City Health Department of the child welfare program which had been developed and conducted for many years by the Baby Hygiene Association, and which had finally come to be recognized as an official duty. This transfer of function was requested by the Health Commissioner, Dr. Mahoney.

The system of generalized nursing which has replaced the older specialized nursing in the Health Department is an example of the kind of progress to which the League lends its support. A single Health Department nurse now performs all the functions, within the limits of her district, which formerly were exercised by three groups of nurses who specialized in child welfare activities, communicable disease prevention or tuberculosis supervision.

In recent years the League has studied many kinds of health problems and has endeavored, with the advice and assistance of its committees, to promote progress. Special studies have thrown light upon the needs of the chronic sick, to the end that they might be better provided for in the future. The League has favored the extension of health education in the Public Schools, where an excellent program was put into effect by Dr. Ceconi. Unfortunately, he died quite recently, before the fruits of his faithful work had had time to ripen.

During the past year, the League has been investigating Boston's unduly high maternal and infant mortality at the time of childbirth. An important phase of the problem has been studied by Dr. Stuart of the Harvard School of Public Health. Some of his findings were published in a recent number of the *New England Journal of Medicine**.

That the League itself practices the coöperation which it recommends to others is well exemplified in its relations with the Boston Council of Social Agencies and with the Massachusetts Society of Mental Hygiene. Acting together, last year, these three organizations sponsored a survey of mental hygiene facilities in Boston. They prepared a report upon the subject, and are giving publicity to the findings.

The League has repeatedly made use of surveys as stepping-stones to progress. Surveys, if well planned and conducted, should present facts in a manner suitable for interpretation. Such facts may be useful in two ways.

Firstly, defects, gaps, or deficiencies may be revealed in services which have already become more or less satisfactorily standardized. As an instance of this kind of standardization, but one in which the League played no part, is the number of acutely ill patients that a hospital nurse should be called upon to take care of in a day. This is a matter over which there would be little difference of opinion now. In other words, a standard for such care has been established and has received general acceptance.

Secondly, a survey is often the best means of obtaining facts which must become available before guiding principles can be formulated or normal standards established for those health activities, the practice of which remains formless or chaotic.

Because of rapid expansion of functions in the health field, there are many procedures in need of this kind of standardization. The League endeavors to formulate and to establish such standards.

Should I mention all the activities of the League, too much time would be required. Therefore, the instances which I have cited of the work of other years and two examples of recent work must suffice.

Let me direct your attention to the adoption by the Federal Census Bureau of the *permanent small tract* as a basis for the last census in Boston. This system has proved extremely valuable in other cities. Health statistics must be correlated with population, age, sex, and race, and, not only health, but also, welfare organizations need to be able to analyze their problems in terms of small districts. The Health League has been instrumental in the adoption of the permanent small census-tract in Boston.

A few months ago, a member agency brought to the attention of the League the lack, in certain districts, of domiciliary medical service such as had long been provided through philanthropic organizations in other parts of the city. Investigation brought out the fact that the alleged need did exist and that, because of the financial depression, it was likely to become urgent during this winter. The League, accordingly, fostered extensions of medical domiciliary visiting, and there is now no part of Boston which is not provided with this service for the sick poor. This philanthropic work should relieve the practicing physician of a part of his heavy load of unpaid service.

Before closing I wish to state that the Boston Health League, from time to time, consults the officers of the American Public Health Associa-

*Stuart, H. C.: New Eng. J. Med., 204:149, 1931.

tion, or other disinterested persons, about problems in which possible local bias might be regarded as an obstacle to clearness of vision; that it keeps in touch with the Health Committee of the Boston Chamber of Commerce; and that it has contacts with the organized medical profession of Boston.

The League knows that the coöperation of physicians is essential in most health activities and it has obtained the advice and assistance of physicians on many occasions. Several physicians have always been among the most active members of the League's Executive Committee. The League feels, however, that in the future, its work ought to become better known in Boston than it has been in the past, and that the more the physicians know about its work, the more strongly will they support the League.

The League has always commanded the interest of many public-spirited persons who have nothing to gain therefrom, either directly or indirectly, and many such persons give part of their time to its service.

Inquiries come frequently from other cities about what is being done in the field of health in Boston, and the Boston Health League is widely known and respected in other States.

The League believes that its work has been useful, that its existence has been more than justified during a period of 10 years of active work, and that its influence should continue to increase.

Discussion

Robert B. Greenough, M.D.: I have been greatly interested in the two different points of view in regard to the program of preventive medicine of the Boston Health Department which have been presented by Dr. Wilinsky and by Dr. Timmins.

It is apparently very difficult, at the present time, to draw a hard and fast line between that service which should be given by the state and municipal authorities and that which should remain in the hands of the general practitioner. In a community like Massachusetts the care of the sick has been entrusted for many years to physicians in private practice who have qualified themselves by education and by experience to be licensed to practice in the State. It was soon discovered, however, that some central State organization was needed to take the responsibility for such general problems as water and milk supply, sewage disposal, the quarantine of contagious diseases, and other matters involving the health of the community as a whole, and the laws passed to preserve the public health.

It must not be forgotten that it was the medical profession which first saw the need and the advantage of such governmental agencies, and that it was due to the efforts of the members of the Massachusetts Medical Society that legislation was finally secured in 1886 which established a State Board of Health in Massachusetts, with authority and with resources to carry on these purposes.

During the past twenty-five years great advances have been made in medicine, most of which have developed in the laboratory. Many of these advances related to contagious diseases, and it is through them that we have gained the control of typhoid fever, diphtheria, and many other diseases, by curative and by preventive measures. The advance of medical science, however, has not been restricted to the contagious diseases alone. Facts have been established which make possible the prevention or cure of many other conditions, such as diabetes and nutritional disorders. Notable additions have been made, also, to our resources for dealing with cancer, tuberculosis and a number of other diseases, and the possibilities of preventive medicine have been realized to an extent far greater than was even dreamed fifteen or twenty years ago.

In these days of unrestricted publicity, advances in medical science become material for the front page of the daily paper long before they can be published in the medical journals, and owing to this fact the public is easily educated to the point of desiring the latest developments of medical service long before the medical profession, as a whole, can be trained and equipped to supply this service to them.

The usual procedure has been as follows: Under the guidance of well-informed physicians, usually those who have restricted their medical activities to a narrow field, unofficial and lay health organizations have been established to promote the wider application of these advances in science in medical practice. Under the pressure exerted by these unofficial bodies, municipal and state public officials have been induced to employ their resources and their organizations to these purposes. This was notably the case with tuberculosis, and to a great extent it applies, also, to such public health work as has been done in baby hygiene, mental hygiene, venereal disease, cancer, and other branches of medical activity.

The lay public appreciates that the entrance of the Public Health Department into these fields is of advantage both to the individual and to the public as a whole, and the benefits are by no means restricted to the service supplied to individual citizens of the State but include, also, the broad educational effect upon the community and upon the medical profession as well. The whole field of medical science is today too great to permit a single individual to obtain even general knowledge of all its branches. It is undoubtedly this fact which has brought about the development of specialists in medicine, whose activities are so widely criticized at the present time. It must not be forgotten, however, that it is chiefly the specialists, working in relatively narrow fields, to whom we owe the

advances of medical science of which we are justly proud.

In view of all of these circumstances the matter can perhaps be summarized as follows:

(1) The activities of the governmental departments dealing with the Public Health are essential to the welfare of the community in all such general activities as the maintenance of pure water, milk, and food supplies; the maintenance of quarantine and of specific preventive and curative measures in the contagious diseases, and in the provision of medical care for the indigent.

(2) When opportunity exists for the extension of these State activities to provide improved diagnostic or therapeutic service, which the medical profession is unable at the moment to supply, such service should be undertaken not only for the immediate effect of giving better facilities for treatment of the individual, but for the educational effect upon the community, as a whole, including the medical profession.

(3) When the Public Health Department expands its activities into this field, however, its relation to the medical profession must be clearly understood. It is venturing into the field of medical practice, and in this field its activities should be understood to be positively and definitely those of a *consultative nature*. The code of ethics of the medical profession establishes the principles under which such relations between physicians are to be conducted, and the physicians of the Public Health Department must be bound by this code of ethics just as is the general practitioner. More rigid observances of these principles will result in the disappearance of much of the anxiety now manifest in the medical profession in regard to the expansion of the activities of our public health departments.

(4) A close relationship should be maintained between official public health services and the general medical profession. This object can be secured by obtaining the appointment of committees from the district medical societies and from the state society, for intimate discussion of these matters; and there can be no doubt that closer relations of this character are essential to the successful continuance of the system under which the care of the sick is now conducted in Massachusetts.

STEPHEN RUSHMORE, M.D.: I have selected for consideration but a small part of this large field which presents problems with ever-increasing insistence. The solutions we have proposed, and are proposing, are often suggested, and sometimes made seemingly necessary, by the circumstances in which the problems arise. We do what we do, not because it provides a wise solution, but because it seems impossible to take any other course of action. What we do is perhaps the least that we can do and maintain our self-respect; or it may be merely the most to which the opposition can force us. This is a shortsighted policy for us to pursue and I hope to point out an important side of the problem which we are neglecting.

In looking around for a point of view from which to consider the field, as I am not quite clear in what representative capacity I have been expected to speak and as I do not wish to trespass on what has been assigned to others, I notice that this meeting is held under the auspices not only of the Suffolk District Medical Society, but also of the Boston Medical Library. This has suggested to me a point of view which I have striven to attain. I am not authorized to speak for the Medical Library, but I do wish to represent, I confess it must be very inadequately, the point of view for which the Medical Library may be said to stand.

The Medical Library as a whole represents a gathering together of the views of all the individuals into a synthetic outlook, as it were, so that one may have a broad and comprehensive vision, and from this may come to an evaluation of the parts in the light of the whole. What, then, may one see, if, in a metaphorical sense, one is perched on the highest point of the ridgepole of this new addition to the library building and looks out over the field of medicine? I shall confine myself to a very few items, and my comment will be chiefly in the nature of adverse criticism.

The first fact I note is that public health activities are too much in the hands of laymen. Why this is so I do not know. Perhaps the laity in certain communities refused to accept medical leadership in this field. Perhaps, when the call for leadership came, the medical profession was not willing to lead; perhaps it was not able to lead. An illustration of what I mean is found in a recent list of health officers in this Commonwealth, in cities of fifteen thousand inhabitants or over. One finds that eighteen of the forty-three health officers are not physicians. Is it possibly true that public health activities have so little to do with medicine that a layman can direct them better that can a physician? In any case, in the communities to which I have referred, eighteen of forty-three cities of over fifteen thousand inhabitants, there was lay and not medical leadership in public health activities.

The second feature that I notice is that often preventive medicine has been identified with public health. It is true that these two fields overlap, but they are two fields. We should remember that the police power of the organized government is the origin of our public health activities, and as these have extended into the field of education, in which most of their work now lies, certain encroachments have taken place. I shall note two developments which I think merit criticism: the first is the encroachment on the field of formal education; the second is the encroachment on the field of private practice.

Concerning the first, the thoughts of Herbert Spencer on "Education" are still pertinent. If we regard education as meeting the needs of the individual, there are five kinds of knowledge to be considered. The first of these, first in time and first in importance, is knowledge concerning self-preservation. Look at the ordinary school curriculum and see how little part this knowledge has in it. To be sure one hears now something of health education for children in some communities; but so far, almost nothing has been accomplished; the whole movement is in the incipient stage among us. Yet if children were provided with a reasonable amount of health education in our schools, I am optimistic enough to think they would take to it far more kindly than they do to many of the other things we try to teach them, and their acquisitions would be more nearly permanently held. Think of the possibilities for later health, now unrealized. Probably much of the health education for adults, now attempted by departments of public health, would be unnecessary if health education could be established in the schools. Here is where it belongs.

Before I speak of the encroachment on the field of private practice, I want to say emphatically that I impute no sinister motives to departments of public health, nor do I blame them. If any blame is to be assigned, it is to be placed, I think, somewhere in the medical profession, because when the time came for the advance into the field of preventive medicine, the medical profession was so unresponsive to the call. Too largely has the medical profession let preventive medicine pass away from its interest, from the focus of its attention, and from its control. Where the responsibility lies in the medical profession, I shall not undertake to say now.

In regard to the encroachments on the field of private practice, I can say best what I have in mind in connection with state medicine, which I shall consider in a moment, noting at this point merely that such infringements are to be justified or condemned finally, not by their effect on the pocketbook of the physician, or of the patient, or of the community at large, but by their total results.

At the beginning of the consideration of State medicine I am going to read, with your permission, a definition of state medicine by the official representatives of the American Medical Association, when they passed a resolution concerning this important subject.

"State medicine is hereby defined, for the purpose of this resolution, to be any form of medical treatment provided, controlled, conducted or subsidized by the federal or any state government, or municipality, excepting such service as is provided by the Army, Navy or Public Health Service, and that which is necessary for the control of communicable disease, the treatment of the indigent sick, and such other services as may be approved by, and be administered under the direction of or by a local county medical society of which it is a component part."

I hope we shall be able to do a little better thinking than that, for the meaning of the resolution, as I understand it, is that the fundamental distinction between what is State medicine and what is not State medicine, is, for the purpose of that resolution, a saving clause, but it does not save much, the fundamental distinction, is based, not on whether a medical activity is, or is not, carried on by the organized government, but whether it is, or is not, approved by this official representative body. If they approve, it is not State medicine; if they do not approve, it is State medicine. I leave it to you to evaluate such a definition as you please.

We have State medicine in Massachusetts. If the psychopathic hospital in Boston, or the cancer hospital in Pondville is not State medicine, then I do not know what is, or is not, the State; nor do I know what constitutes medicine. Of course, we have State medicine, and we are likely to have it for some time to come. We are assured on good authority that we shall have the poor with us always, and certainly the care of the indigent sick by the State is State medicine, ten thousand resolutions by the American Medical Association to the contrary notwithstanding. The question is not whether we shall, or shall not, have State medicine, but within what limits does it meet with our approval, and within what limits shall it be established.

The objection to State medicine is that it is paternalistic. What is paternalism and why is it a bad thing? It is not in itself bad; it is the natural relation of the strong to the weak, if there is added sympathy and the desire to help. If the strong desire to prey upon the weak, paternalism is absent. Paternalism is a necessary part of State medicine, at least in some of its activities, and as we shall always have the poor and the weak with us, it is likely to persist. It looks, too, as though the field for paternalism might increase, for there is a growing tendency for society in civilized communities to protect and preserve the weak and the handicapped in life's battle, as Lord Acton has said, "at infinite cost, which is infinite loss". The evil, then, of paternalism is not its existence but its misapplication in practice.

The consideration of this problem takes us outside of the field of medicine and we enter upon a consideration of the theory of government. To what extent, within what limits, should the government assist the individual? It is a field of controversy. There are those who hold that the government should do all that it can to help the citizen, and that the citizen should look to the government for help in every possible way. At the other extreme are those

who hold that the government should do only what is necessary to maintain the existence of the State and to preserve the freedom of the individual. I incline strongly toward the latter extreme, for the danger of paternalism is that it will undermine the independence of the individual and check the tendency toward freedom. The individual should be expected to provide for himself all that he can.

"All that he can." That is a crucial matter. What if the best he can do is not enough for the standards of contemporary civilized existence? This is just the situation with which we are confronted, and the question is raised: How can it be met except by the government? Often there is no better way of dealing with an emergency, if it be of great magnitude, than by governmental action, and I think we ought to regard much of our work in public health as emergency work, necessary if we are to be humane, but for which we are going to pay heavily in the future, as for emergency service generally. Furthermore, it is not to be regarded as a cure for the condition we are seeking to relieve. On the contrary, there may be some increase in the need as a result of our efforts. The cure lies outside the field of medicine and in the field of economic adjustment. Such individuals as can, and will, work ought to receive sufficient wages to enable them to maintain a reasonably civilized state of existence, and for the more gifted there should be reasonable opportunity to rise to higher levels of civilized life. I do not protest against State medicine, but against its indiscriminate extension into fields, where, in my opinion, it will do more harm than good; and it is against this indiscriminate extension that we ought to be on our guard, and against which we ought to fight, if need be. When I say fight, I do not mean with clubs and brickbats.

There is one consideration that weighs much in the minds of some people. It is that the extension of State medicine will result in a greater financial economy for the community. It will be a material saving at the risk of a spiritual loss if the spirit of independence and self-support is impaired. There is a saying, "All men are created free and equal"; and another saying, "All men are created unequal and slaves." If a choice were necessary between these double-headed and untrue statements, I would choose the latter as nearer the truth.

There is a story from ancient Greece that comes to my mind. Two Spartans (and you remember how poor the Spartans were in material possessions) were having a conversation with the representative of the Great King, the King of Persia (and you remember also the luxurious wealth of Persia at the time when it threatened Greece). There had been fighting in the past and the Persians had found the Greeks to be disagreeably hard fighters. The Persian lord urged the Spartans to give up fighting and to submit themselves to the Great King, and he pointed out what power and dominion and material wealth would be theirs if they became subjects of the King of Persia. Their reply ought never to be forgotten by those who love freedom.

"Thine advice as touching us is of one side only, while the other thou has not tried. Thou understandest what it is to be a slave, but freedom thou hast not tasted, whether it be sweet or no. For if thou shouldst make trial of it, thou wouldst counsel us to fight for it, with axes as well as spears."

Most of us, I think, are like Hydarnes, the Persian. Freedom we have not tried, for freedom is not something into which we are born. If it becomes ours at all, it is something we achieve, often at great cost of material possessions and material welfare; and as Goethe said:

> "He alone gains and keeps his life and freedom,
> Who daily has to conquer them anew."

If we had indeed made a trial of freedom, we would fight valiantly for it, with all our might, against every encroachment upon it, and against every obstacle in the way to greater freedom, no matter with what blandishments of material well-being these encroachments might be disguised.

GEORGE H. BIGELOW, M.D.: The papers have clearly brought out that in the field of medicine and public health we are at present in flux due to increases in our knowledge, changes in economic conditions and people's ideas of the field of government, etc. As I see it, there is little question in regard to the propriety of health officers handling matters having to do with the environmental control of communicable disease. The twilight zone, and therefore the points of disagreement, comes in regard to the broad and recently developed field of personal hygiene. I think no one will deny that the public is not obtaining all that our present knowledge would warrant in regard to the control of much sickness and death. This being the case, we must all admit that there must be some change. Further, the public is getting conscious of this fact and in some ways the public's confidence in what preventive medicine can accomplish is overdeveloped because of successes in the fields of typhoid, smallpox, malaria and the like. The question, then, is not whether there shall be a change, but what the change shall be. Opinions in this regard vary all the way from "leaving us alone" to "State medicine." As is usually the case, both extremes are untenable and there must be some middle ground. Middle grounds usually mean compromise and compromise has been defined as something which satisfies no one. However, such frank, thoughtful, good-natured discussions as that this evening would seem to be the most effective hope of eventual thoughtful solution with justice to all.

THE HAY FEVER PLANTS OF EASTERN MASSACHUSETTS*

A Preliminary Study

BY FRANCIS M. RACKEMANN, M.D.,† AND LYMAN B. SMITH, PH.D.†

TO treat hay fever successfully, the doctor must have an accurate knowledge of the important hay fever plants in his community and of the seasons during which their pollen is produced. Surveys of hay fever plants have been made in other sections of the country but not heretofore in Eastern Massachusetts and the present study should prove to be not only of academic interest but of practical value to clinics in this locality.

The seasons in Eastern Massachusetts are clearly defined. Winters are cold and summers are hot. Wide swings of temperature both in winter and summer are accompanied by a considerable precipitation which occurs at all seasons, without regular wet or dry seasons. Such peculiarities of climate result in a growth of vegetation which is limited in so far as the flowering season of each plant is relatively short, concentrated, and well defined. This is in contrast to the condition in some other parts of the United States notably in the South where the season of active pollen production is much longer.

The present report is only preliminary for two reasons:—First, it will be highly desirable to check the observations made in 1930 with those to follow in 1931, to see which of the findings are essentially fundamental and which are dependent upon peculiarities of the particular year. Second, it was not possible in 1930 to begin field studies until early June so that the data for April and May had to be compiled from the herbarium specimens studied through the courtesy of the New England Botanical Club. This herbarium, however, is so complete that in it each species is represented by from twenty to fifty specimens on each of which is noted the time and place of its collection. It is, therefore, an easy matter to note the dates on which well-developed anthers were found and to plot them accordingly. During 1931, these preliminary observations will be checked.

The data after early June were derived from two sources. Field studies of the plants in their natural habitat showed the times at which anthers ripened and pollen was produced as well as the general occurrence of the plant, whether it was common or rare. Secondly, microscopic examination of "pollen slides", that is, of ordinary glass slides painted with glycerine or vaseline and exposed for twenty-four hours in various places under a small shelter to keep off rain and dew, provided an excellent check on the field observations. Pollen slides studied daily yield important information. They provide an index of the concentration of pollen in the air which after all is the important factor in the onset and severity of hay fever (see the study entitled "Ragweed Hay Fever: Symptoms and Pollen Concentration Compared (1930)" elsewhere in this issue) and they make possible a qualitative study of the several pollens to indicate which ones are probably of greater clinical importance.

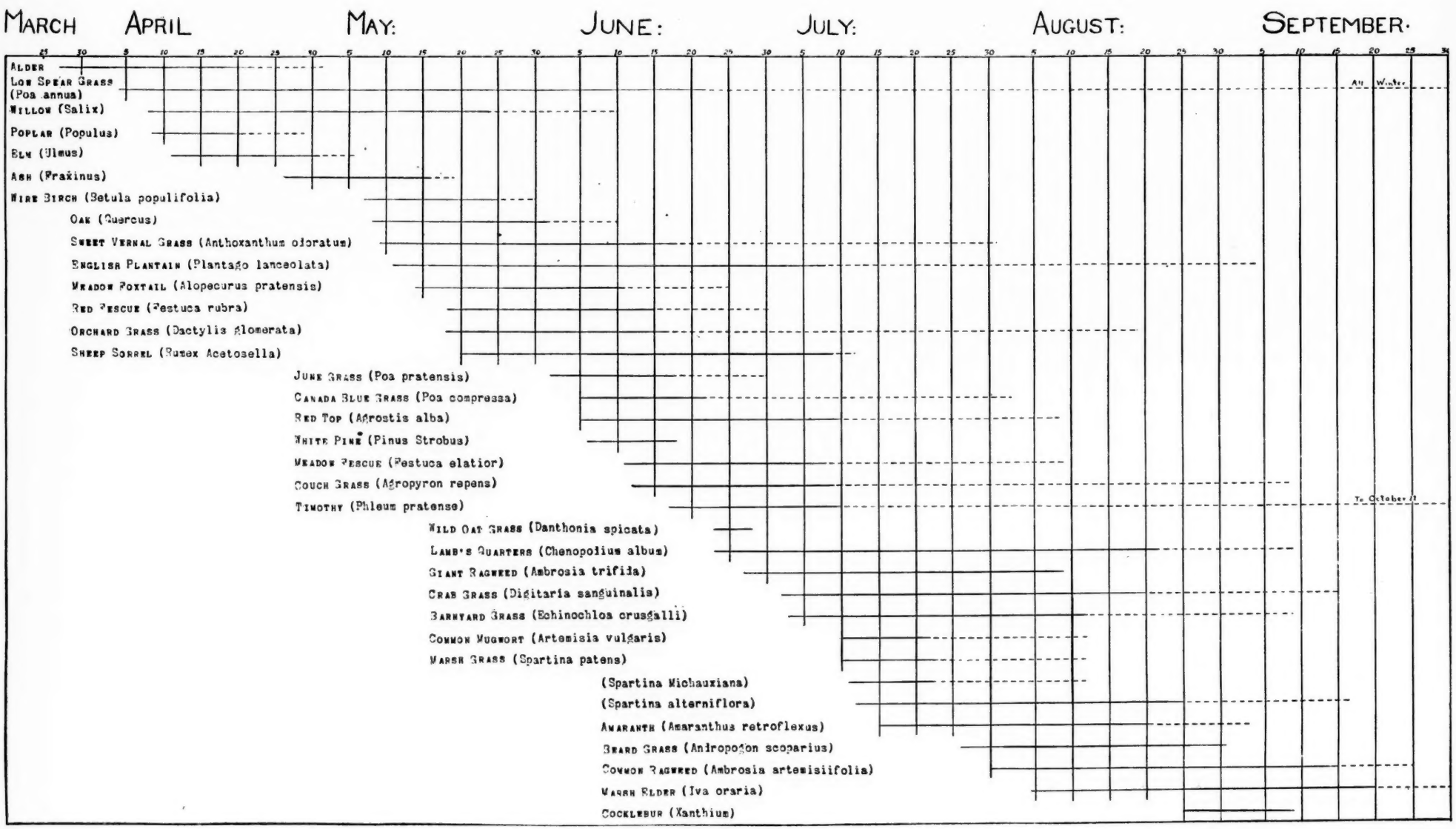
In Eastern Massachusetts there are three fairly distinct seasons of hay fever, each deriving its name from the hay fever plants which pollinate at that time. The spring or "tree" season is important to a small group of patients. The early summer or "grass" season, and the late summer and fall or "ragweed" season, are of about equal clinical importance, the number of patients in both being large. The tree season begins in early April. In the cases of alder, poplar, elm, ash, birch and oak each pollen season lasts for about fifteen, rarely for over twenty days. In the case of willow, however, the season is much longer. Willow pollen has been noted as giving positive skin tests in hay fever patients, but since willow is largely insect pollinated, it seems unlikely that it would liberate enough pollen to cause trouble. As stated above, the field work in 1930 was begun too late to include direct observations on the amount of willow pollen in the air, but this will be checked in 1931. The time during which each tree pollinates is essentially uniform for different localities in the same section. Whether the patient's residence or occupation brings him in close contact with one kind of tree or another is always important.

Most pollen at this season comes from some type of tree. The common grasses have not yet bloomed with the single exception of low speargrass (*Poa annua*) which blooms the year round, even appearing in periods of thaw in mid-winter. However, this grass is rarely found in large stands as in the case of the meadow grasses of early summer, and its amount of pollen shed at any given time in Massachusetts is probably negligible as regards hay fever.

The so-called grass season begins about the middle of May with sweet vernal grass (*Anthoxanthum odoratum*), English plantain (*Plantago lanceolata*), and meadow foxtail (*Alopecurus pratensis*). Sweet vernal grass and plantain are abundant in dry fields; foxtail prefers damp meadows. All three are very common in their several habitats. English plantain although not

*From the Anaphylactic Clinic of the Massachusetts General Hospital and the Gray Herbarium of Harvard University.
The expenses of this investigation were met by an anonymous donation known as the "M. G. H. Asthma Fund".

†Rackemann—Physician to Massachusetts General Hospital. Smith—Research Fellow in Botany, Harvard University. For records and addresses of authors see "This Week's Issue", page 732.


MARCH
APRIL
MAY:
JUNE:
JULY:
AUGUST:
SEPTEMBER.
ALDER
LOW SPEAR GRASS (Poa annua)
All Winter
WILLOW (Salix)
POPLAR (Populus)
ELM (Ulmus)
ASH (Fraxinus)
WIRE BIRCH (Betula populifolia)
OAK (Quercus)
SWEET VERNAL GRASS (Anthoxanthum odoratum)
ENGLISH PLANTAIN (Plantago lanceolata)
MEADOW FOXTAIL (Alopecurus pratensis)
RED FESCUE (Festuca rubra)
ORCHARD GRASS (Dactylis glomerata)
SHEEP SORREL (Rumex Acetosella)
JUNE GRASS (Poa pratensis)
CANADA BLUE GRASS (Poa compressa)
RED TOP (Agrostis alba)
WHITE PINE (Pinus Strobus)
MEADOW FESCUE (Festuca elatior)
COUCH GRASS (Agropyron repens)
TIMOTHY (Phleum pratense)
To October 1
WILD OAT GRASS (Danthonia spicata)
LAMB'S QUARTERS (Chenopolius album)
GIANT RAGWEED (Ambrosia trifida)
CRAB GRASS (Digitaria sanguinalis)
BARNYARD GRASS (Echinochloa crusgalli)
COMMON MUGWORT (Artemisia vulgaris)
MARSH GRASS (Spartina patens)
(Spartina Michauxiana)
(Spartina alterniflora)
AMARANTH (Amaranthus retroflexus)
BEARD GRASS (Andropogon scoparius)
COMMON RAGWEED (Ambrosia artemisiifolia)
MARSH ELDER (Iva oraria)
COCKLEBUR (Xanthium)

a true grass is like the grasses in that it shows a long period of sporadic flowering after the main season has closed (as indicated on the chart by the broken line). The principal grasses of this season are June grass (*Poa pratensis*), Canada blue grass (*Poa compressa*), red top (*Agrostis alba*), orchard grass (*Dactylis glomerata*), couch grass (*Agropyron repens*), and timothy (*Phleum pratense*). All of these exhibit the same tendency to sporadic flowering long after their regular season is over. All give large positive skin reactions in patients with June hay fever. Couch grass should repay further investigation because it is one of the very commonest grasses in the vicinity of Boston, giving in many places the appearance of fields of dwarf beardless wheat. The pollen of couch grass is somewhat larger than that of other common grasses making it less easily carried by the wind, but the grass itself is so common that one is always within a few yards of some of it except in the very heart of the city. Red top has the lightest and smallest pollen of all the common grasses of this region, and from the point of view of field experience should be the largest single factor in hay fever in the early summer season.

Red fescue (*Festuca rubra*), meadow fescue (*Festuca elatior*), sheep sorrel (*Rumex Acetosella*), and wild oat grass (*Danthonia spicata*) are found, but much less frequently, and are therefore of distinctly minor importance. The pines have so far no record for hay fever but the white pine (*Pinus Strobus*) is included in this chart merely as an aid in studying pollen plates.

The last part of June finds the grass hay fever season on the wane, but one should note that sporadic flowering as indicated by the dotted lines continues well into July and August, certainly in the common species, like English plantain, orchard grass, Canada blue grass, red top, couch grass, and timothy. At this time, too, the late flowering grasses and the weeds appear including a number which have a bad reputation elsewhere in the country. These are lamb's quarters or goosefoot (*Chenopodium album*) giant ragweed (*Ambrosia trifida*), crab grass (*Digitaria sanguinalis*), barnyard grass (*Echinochloa crusgalli*), common mugwort (*Artemisia vulgaris*), various species of marsh grass (*Spartina patens, S. Michauxiana* and *S. alterniflora*), and amaranth or pigweed (*Amaranthus retroflexus*). Field work shows that amaranth is not common enough to be a likely cause of trouble, while common mugwort is distinctly scarce here and giant ragweed a rare and fleeting introduction. However, crab grass and lamb's quarters are common in waste places, though nothing to compare with the common ragweed (*Ambrosia artemisiifolia* or *elatior*) which comes later in the season. Barnyard grass is not particularly common in the vicinity of Boston, but increases southward in the Cape Cod district. Its pollen shed is relatively scanty. The marsh grasses have heavy pollen which cannot travel very far, and for the most part they are restricted to salt marsh habitats. Beach grass (*Ammophila breviligulata*), tall wormwood (*Artemisia candata*) and other coastal species need further investigation.

Ordinarily, patients with typical grass hay fever improve in July. In late July any persistence of symptoms may indicate a high degree of sensitiveness combined with large exposure, as due to residence on a farm, but it suggests a sensitiveness to one of the weeds. So far our experiences with skin tests to lamb's quarters (*Chenopodium*), to the amaranths and to crab grass are disappointing. The survey shows that further study is needed.

With the coming of ragweed in mid-August, all other species are completely overshadowed. No other pollen makes a consistent showing on the pollen plates. Ragweed stands alone except for certain fungus spores of which more anon in another paper. Beard grass (*Andropogon scoparius*) is very common at this time, but so far has not been checked by clinical tests nor has its pollen been found on pollen plates. Marsh elder (*Iva oraria*) is strongly a seashore plant, extending the entire length of the Massachusetts coast, but is much more frequent on eastern Cape Cod than to the north. Field experience indicates that marsh elder is much more likely as a cause of hay fever in this region than is cocklebur (*Xanthium*). In fact cocklebur is included here solely because it frequently gives well-marked skin reactions and has appeared to be of value when used in the treatment of a few difficult cases. From the botanical point of view, cocklebur is a quite insignificant factor in eastern Massachusetts. The plants are distinctly uncommon and the staminate inflorescence on each plant small and with a heavy pollen which has not as yet been discovered on pollen plates. Goldenrod pollen is practically never found on pollen plates. It is sticky and adapted to insect transportation. It is not a factor in hay fever. The fact remains that in New England, ragweed is the only important factor in the late summer and fall hay fever and it is extremely doubtful whether anything else is worthy of serious consideration.

RAGWEED HAY FEVER: SYMPTOMS AND POLLEN CONCENTRATION COMPARED (1930)*

BY FRANCIS M. RACKEMANN, M.D.,† AND LYMAN B. SMITH, PH.D.†

THE microscopic examination of pollen slides (pollen slides are ordinary glass slides bearing a thin coat of glycerine or vaseline and exposed for twenty-four hours out of doors under a small shelter to keep off rain and dew), yields important information. The number of pollen grains which fall on a square centimeter of slide when multiplied by 1.80 represents the number of grains per cubic yard of air. From such daily pollen counts, curves are readily constructed.

Chart I shows four such curves which are interesting because they show that the pollen concentration in Winchester, 10 miles north of Boston, in Cambridge adjacent to Boston, and in down-town Boston itself, are all quite comparable. The Boston curve was made and calculated by Mr. O. C. Durham of the Swan-Myers Company who has been kind enough to allow us to reproduce it here. Pollen appears a little earlier in Winchester than in Boston, but peaks of concentration are evident in all places on the same day, thus there are small peaks on September 26 and September 29. The major peak occurs on September 3 in all stations alike. Why the height of this peak should be so much greater in Boston (120 pollen grains) than in Cambridge (80 grains) is hard to explain. The technic of placing and counting the slides was quite the same in all instances. After this major peak, the counts fall off with small secondary peaks on September 11 and September 16. The drop to zero occurs on practically the same day.

This uniformity of ragweed concentration in different parts of the same city is quite remarkable. It indicates again that ragweed is carried over long distances by the wind and that the air content is well mixed.

Chart II shows a comparison of the typical pollen curve with another curve which represents the development and intensity of hay fever symptoms. This chart has a background of short lines which represent the period of symptoms in each of one hundred patients; the line is heavy when these symptoms were severe. To obtain the symptom curve, the individual lines have been counted where they cross the upright date lines, allowing two counts for the heavy lines, and the totals have then been plotted to make the solid curve. All patients were under treatment which was obviously only partially successful in controlling symptoms. The dotted curve represents the pollen concentration averaged for Winchester and Cambridge.

Evidently symptoms and pollen concentration go together very closely. Symptoms begin in a few cases with the first appearance of air-borne pollen, and reach their peak shortly (twenty-four hours) after the date of maximum pollen concentration. Thereafter the symptoms dimin-

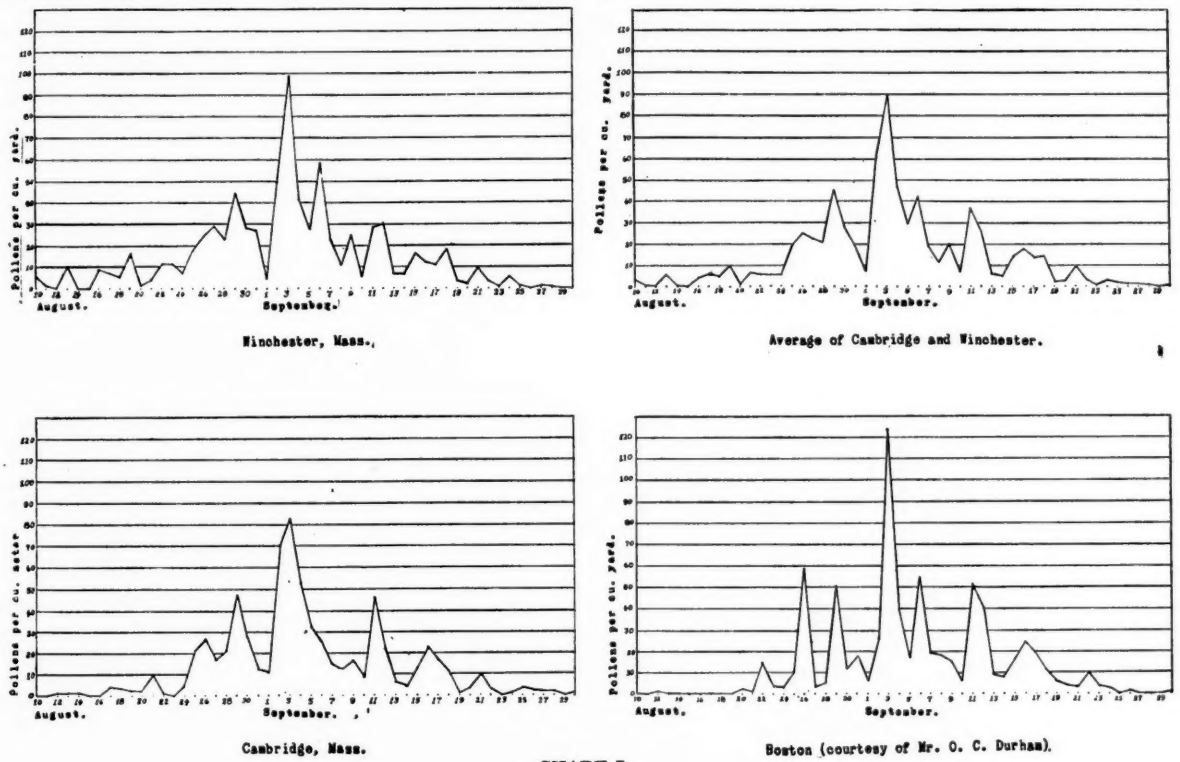


CHART I.

*From the Anaphylactic Clinic of the Massachusetts General Hospital and the Gray Herbarium at Harvard College.

The expenses of this investigation were met by an anonymous donation known as the "M. G. H. Asthma Fund".

†Rackemann and Smith—For records and addresses of authors see "This Week's Issue", page 732.

ish rapidly and regularly but without any exact relation to the secondary peaks in the pollen curve. Symptoms persist, however, in slight degree after the pollen has disappeared.

In a few cases, these late symptoms are severe. For example, Cases 55, 74, 76 and 98 all had severe symptoms for a few days after September 14. All of them gave rather large skin tests to ragweed and all had ten or more doses of ragweed which in two of the cases were of the 1-100 dilution. All of them reacted to cocklebur and to giant ragweed as well as to the short ragweed. Why they should have had so much trouble at a time which was so much later than the symptoms in other patients is not apparent. The fact suggests an additional factor, such for example, as in a species of mold (alternaria) which was found in some quantity in many of the late pollen slides and which will be studied later.

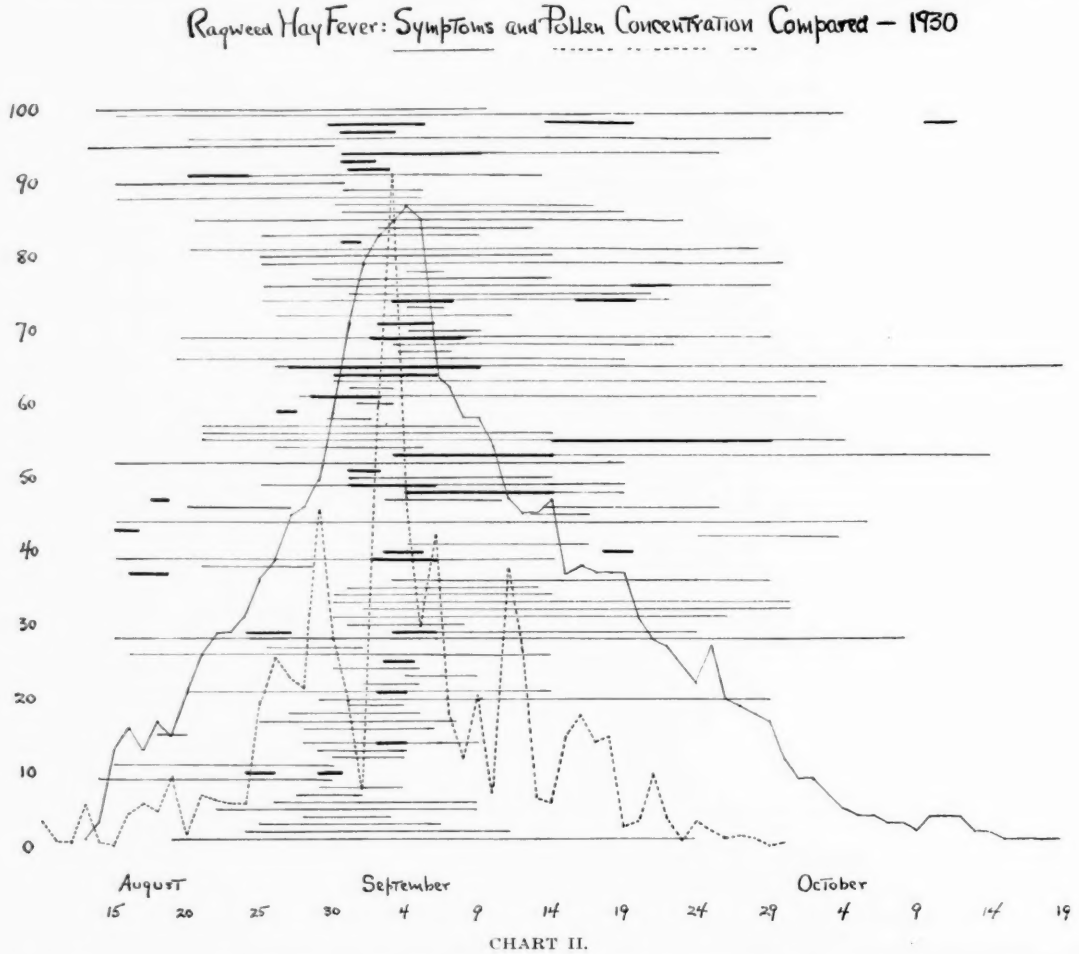


CHART II.

The chief object of this communication is to emphasize the fact that the amount of pollen in the air and the intensity of the symptoms of hay fever are so closely comparable.

CAN PREDICT MENTAL DISEASE IN CHILDREN

New York, February 21.—The development of mental disease can be predicted in advance by psychiatric studies of children, Dr. J. I. Kasanin and Louise Veo of Boston reported to the American Orthopsychiatric Association here this afternoon.

"We studied eight children who were examined at the Judge Baker Foundation of Boston because of mild conduct disorders, or were sent there for advice about placement and vocation, and who later on in life became psychotic," the investigators reported.

"In most of the cases the development of a personality disorder was foreseen long before the appearance of social criteria of mental disease. We studied the personality of the children as they were observed by the various informants long before there was a suspicion of mental disease."

Dr. Kasanin pointed out the interesting fact that in the small series of cases studied, the various mental diseases were the developments of special personality types.

Prevention of the development of a mental disease or breakdown should logically follow the prediction of it. In most of the cases in the study, the directions for treatment were not followed. Dr. Kasanin and his colleagues suggested that greater effort in treatment made both by social agencies and by the individual might have prevented or at least postponed some of the breakdowns in this series.—*Daily Science News Bulletin.*

SOME PUBLIC HEALTH ASPECTS OF GONORRHEA*

BY TALIAFERRO CLARK, M.D.†

IT is a source of gratification to learn the objectives of the Neisserian Medical Society of Massachusetts—

To reduce the incidence of gonorrhea
To do research in the medical and social pathology of this disease
To seek improvement in, and the standardization of, the treatment of the disease and its complications in both male and female.

These aims and purposes are in close accord with the functions and duties imposed by the Act of Congress, July 9, 1918, creating the Division of Venereal Diseases in the United States Public Health Service:

(1) To study and investigate the cause, treatment and prevention of venereal diseases
(2) To coöperate with State boards or departments of health for the prevention and control of such diseases within the States
(3) To control and prevent the spread of these diseases in interstate traffic.

INCIDENCE OF GONORRHEA IN THE UNITED STATES

In the public health control of any communicable disease it is most necessary to have accurate statistical knowledge of the prevalence of the disease, its distribution in the population and the trend of the new infections. Such information represents the best measure of the effectiveness of the present-day methods of prevention and control.

We are told by medical historians there is indisputable evidence that the Chinese were acquainted with this disease more than 5,000 years ago. The Mosaic law, promulgated before the days of medicine, not only recognized the existence of gonorrhea, its infectious character, latency, the rôle of the carrier, but also prescribed rules for the prevention of its spread to others. However, there was really no scientific writing on this disease until the time of Hippocrates, 300 years before Christ, who called it strangury. Aristotle, Plato, and Seneca mentioned gonorrhea in their writings, and Galen first gave the name of gonorrhea to the disease because he thought it was an involuntary discharge of semen without erection[1]. In the Middle Ages it was described and treated by Italian, French, and Moorish physicians who understood that it was contracted by sexual intercourse with diseased women.

In the fifteenth century syphilis appeared in Europe and spread rapidly as an epidemic and gonorrhea was overlooked for a time, largely due to the influence of John Hunter who believed that syphilis and gonorrhea were one and the same disease. In 1776 he inoculated himself with what he thought was gonorrheal pus and syphilis developed. He evidently used pus from a chancre of the urethra. Morgagni (1682-1771) studied the pathology of inflammations of the urethra and showed that the discharge originated from the urethral mucous membrane. He also discovered the lacunae of Morgagni and showed their importance in chronic gonorrhea[3].

Hale (1770) Howard (1787), and Bell (1794), of the Edinburgh School of Medicine, taught that syphilis and gonorrhea were different diseases but unfortunately their teaching was not accepted, and as late as 1829 mercury was used in the treatment of gonorrhea in some London hospitals. In 1831, Ricord, on the basis of 667 inoculations, showed conclusively that syphilis and gonorrhea are different diseases but he did not know the cause of the disease and thought it could be contracted from healthy women[2]. In 1879 and 1882, Albert Neisser, of Breslau, discovered and described the gonococcus. He also studied the conjunctiva of infants with gonorrheal ophthalmia[3].

Despite the attempts at its control and studies that have extended over a period of 5,000 years, the results of recent surveys made by the United States Public Health Service, in conjunction with other coöperating agencies, demonstrate the enormous prevalence of this disease today and indicate its magnitude as a public health problem.

A nation-wide effort has been made by the United States Public Health Service during the past 12 years to have, not only each individual physician, but also each public clinic, report to his State department of health the presence of new cases of gonorrhea, and if possible, the source of the infection. Although the reports from the clinics have been fairly complete, there are still numerous physicians throughout the United States who do not coöperate in this work. In spite of the incompleteness of these reports, in the past 5-year period 42 States have reported 785,000 new cases of gonorrhea. A contagious disease which carries a minimum number of 150,000 new cases a year is one which demands our best and most determined efforts toward control. Before the people of an individual community can be expected to develop a program for the control of any disease, those

*Read before the Neisserian Medical Society of Massachusetts, February 11, 1931.

†Clark—Assistant Surgeon General in charge of the Division of Venereal Diseases. For record and address of author see "This Week's Issue", page 732.

charged with the care of their health must be able to present convincing proof of the need of such legislation. In fact, it was for this reason that compulsory reporting of venereal diseases to State health authorities was started.

During the past three years the United States Public Health Service has taken a one-day census of cases of gonorrhea under treatment or observation in 25 communities throughout the United States. The results from these data reveal that the monthly State reports are not even fairly representative of the venereal disease problem in the community. In these surveys were included communities ranging in size from towns of 2,500 to cities with a population in the hundred thousands. Several states were surveyed in their entirety.

These reports were received from sources administering care and treatment to an estimated population of 24,500,000 persons. Instead of the 150,000 new cases of gonorrhea a year reported on the monthly reports there was an estimated 679,000 new cases of gonorrhea a year which were under medical care during the first three months of their infection.

This incidence represents an annual attack rate of 5.7 per 1,000 population. The rate for males being 8.6 per 1,000 population and 2.7 for the females per 1,000 population. Since these rates were based on the acute cases of gonorrhea, it is believed that we may assume that these are the minimum number of persons who have been infected in a year. This estimate is based on the number of cases found under treatment as of any one day in the 25 communities surveyed; a report of the average length of time of the patient under treatment or observation for gonorrhea[4], and the ratio of incidence to prevalence established in two States and one large city of the United States[5].

PREVALENCE OF GONORRHEA IN THE UNITED STATES

The above estimate of 679,000 cases of gonorrhea represents incidence, or the number of fresh infections annually, whereas the result of the one-day census in the 25 communities gives the prevalence, or number of cases of gonorrhea in either the acute or chronic stage constantly under treatment in the United States. With these data as a basis the estimated prevalence of gonorrhea is approximately 474,000 cases. The prevalence rate for gonorrhea from these reports was 5.0 persons per 1,000 population for males and 1.8 persons per 1,000 population for females. The acute cases of gonorrhea among the male patients constantly under treatment are 10 per cent. higher than the chronic while among the female the rate for chronic is 43 per cent. higher than the acute. These facts give evidence that gonorrhea not only often is not discovered in the acute stage when laboratory tests are such a help in the diagnosis but also that women more frequently than men accept the leucorrhea and discomfort of acute gonorrhea and refrain from seeking medical care until serious complications occur.

In those communities in which the negro population formed a significant group the prevalence data were taken separately. The rates found for the negro population in these surveys were higher than for the white. The rates for gonorrhea being 5.1 for negro males and 2.4 for negro females.

These surveys are still being carried forward into new fields and are also being repeated in communities in which they were formerly made so that the trend of the disease can be determined. Therefore, the estimates given here are subject to revision whenever additional data are available which would indicate that the present figures are not representative. In quoting these figures, however, one should feel that there are certainly sufficient data on hand to indicate that these estimates lean toward conservatism rather than toward over-estimation.

COMPARATIVE INCIDENCE OF GONORRHEA AND OTHER COMMUNICABLE DISEASES

There is much evidence available to reveal that even those cases of gonorrhea which actually come under medical care are incompletely reported and yet there are twice as many new cases reported each year as those cases of diphtheria reported, more than four times as many cases as of smallpox, and six times as many as of typhoid fever. In fact, in the 21 States where the reporting of tuberculosis (all forms) is compulsory we have 14,000 more new cases of gonorrhea reported than we have of tuberculosis. This preponderance of gonorrhea among the reportable communicable diseases is even more pronounced in the face of converging evidence that approximately 50 per cent. of the cases of gonorrhea do not come to treatment while they are in the acute stages, and further, that numerous cases of gonorrheal infections never seek any medical treatment from physicians but are untreated, self-treated, or receive treatment over the drugstore counter.

RESEARCH

It has been charged that the Public Health Service has majored in the research and treatment problems of syphilis with but scant attention, if any, to the related problems of gonorrhea. It is true that much greater attention has been given to the control of syphilis than of gonorrhea, but not to the entire exclusion of any consideration of the latter. It is well recognized that syphilis is a major public health problem and controllable because there is a specific remedy. Therefore it was deemed advisable to devote the larger part of our energies to the solution of this problem which offers greater hope of success, and to limit studies for the control of gonorrhea, pending the possible discovery of a specific remedy. Nevertheless, during the past calendar year exhaustive studies have

been carried on with regard to the use of biologic products in the diagnosis, treatment, and prognosis of this disease. These studies included serum therapy, the use of gonococcus broth filtrates intracutaneously and subcutaneously, injection of ectoantigen intracutaneously, the use of live gonococci, local immunization with gonotoxin, and comparison of the relative curative value of local antiseptics. (Biologic Therapy of Gonococcus Vulvovaginitis: A Preliminary Report, by Russell D. Herrold, Samuel J. Hoffman and Maurice L. Blatt; *Venereal Disease Information,* Vol. XI, No. 9, Sept. 20, 1930.)

Studies also of the comparative effect of stock vaccine and convalescent serum and stock vaccine with commercial antigonococcal serum in the treatment of gonorrheal arthritis and epididymitis were carried out by the Service at Ellis Island, New York, during the year. The results were made the subject of a special report which appeared in the January, 1931, issue of *Venereal Disease Information.*

SOCIOLOGICAL ASPECTS

Gonorrhea does not alone affect the individual who contracts the disease. It must be considered also as a social evil attended by a train of circumstances that may involve all grades of society with tragic consequence to both the innocent and the vicious.

Consider for a moment what it means to have approximately 679,000 cases of fresh infections of gonorrhea occurring annually in the United States. The real social significance lies in the prevalence of the disease among women—estimated at approximately 166,000 of the above 679,000 cases. The disastrous effects of the disease are experienced not only among the married women in the frequent breaking up of the family life, divorce and all the social calamities which follow, but also in the lowered efficiency of the women wage earners. Aside from the economic feature is the tremendous toll in suffering and even death from various complications following primary infection by the gonococcus in the female. It is claimed that 40 per cent. of the cases of sterility in women are due to gonorrhea and 50 per cent. of all gynecological operations result from this disease[6]. Gonorrhea is also one of the causes of "one child" sterility[7].

The most tragic sequel to gonorrhea in the pregnant woman is contamination of the eyes of the baby at the time of birth. Ophthalmia neonatorum is responsible for a large proportion of blindness from birth. In a survey of 57 American institutions for the school year 1924-25, 19.1 per cent. of the cases were credited to gonorrhea, while of 8,000 new admissions, 11.5 per cent. were caused by this same disease[8]. Lamb found 2 per cent. of the total number of cases of blindness to be ophthalmia neonatorum among those persons applying for a pension for the blind in Missouri[9]. McAlister has estimated that the education of the child blinded by gonorrhea approximates the cost of 7 normal children (in lost school hours, special care and medical treatment). Even on reaching adult life these blind persons are still liabilities from a crude economic standpoint, since the earning capacity of those who are gainfully employed is reduced by at least two-thirds according to the Metropolitan Life Insurance Company in their special study of the burden of the handicapped to the State[10].

It is encouraging to note, however, that the enactment of State laws requiring the compulsory use of prophylactic drops in the eyes of newborn babies and compulsory notification of all inflammation of the eyes of newborn babies has caused a very material reduction in the amount of ophthalmia neonatorum in the United States. The Proceedings of the 1929 Annual Conference of the National Society for the Prevention of Blindness show that in the schools for the blind, where records are carefully taken, the cases of blindness due to ophthalmia neonatorum among children admitted to these schools decreased from 28 per cent. in 1908 to about 9 per cent. in 1928 largely due to the more general prophylactic treatment of the eyes of newborn babies.

A special manifestation of gonorrhea in the female is the vulvovaginitis of infants and young girls. This highly infectious, serious and prevalent disease among young female children, means isolation with loss of time from school as well as tediousness of treatment for the child. Fortunately, less than 1 per cent.[11] of these cases are followed by serious complications, but when they do occur the tragic results are comparable to those occurring in the older females.

The marital status of the gonorrhea patient in the clinic was reported in a recent study made by the United States Public Health Service. It was found that of 925 patients there were twice as many single as married. This was true among both sexes of the white and colored races. It was found, however, that there was very little difference between the precentage of the colored married male and female but this was not true among the white. In the white gonorrhea patients who were reported as married the percentage of females was twice as high as the males. These figures indicate that probably a large proportion of the gonorrhea in the female is essentially innocent.

The statistics of gonorrhea reveal that in spite of State laws for the infants' protection, gonorrhea is still a causative agent in an appreciable number of cases of blindness; that an estimated 8,700 of the fresh infections are among girls under 15 years of age; that annually of the 679,000 new infections approximately 205,000 are individuals under 25 years of age. The very youthfulness of these victims and the disastrous residuals of the disease when neglected or im-

properly cared for make a strong appeal to all those who are interested in or charged with the protection of the public health to make every effort to control gonorrhea in the community.

PREVENTION

Many factors have contributed to the almost uninterrupted dissemination of gonorrhea, not the least of which is its "repulsive connotation" and the popular belief that the disease is not injurious — a sort of defense reaction against the failure to seek treatment through shame.

Also, up to the time of the World War, the *noli me tangere* point of view, maintained in the United States at least, with regard to the public mention of sex matters, aided and abetted by false modesty, greatly militated against attempts to create an enlightened public opinion with regard to the venereal diseases, without which aid the physician and the public health officer are seriously handicapped in efforts for their control. Moreover, advances in the field of venereal disease prevention have not kept pace with the progress made in the control of other communicable diseases. As a class they far outnumber any other disease reported to the U. S. Public Health Service. If we are ever to succeed in reducing them to a minimum it is essential to carry out certain practices best calculated to accomplish the desired result.

The solution of the problem of the prevention of gonorrhea revolves about two main points: preventing the non-infected from being infected, and preventing the infected from disseminating infection. It is doubtful if the first of these postulates will ever be completely satisfied. Promiscuity in sexual indulgence, with the potential danger of infection, may not be prevented by sounding notes of warning or by pointing out the serious consequences of infection to the individual or his future wife, if unmarried. The solution lies deeper than this and depends in far larger measure on the slow, at times discouraging, and always difficult task of creating a higher moral tone and a stricter sense of moral responsibility toward others among large population groups. Sex education in colleges, schools and homes, and allied measures, may have their field of usefulness, but we must go further and seek to improve the atmosphere of the home by fostering parent education in such subjects as child psychology, the effect of parental precept and example, and of pleasant home environment on the temperament, character, and spiritual life of developing children.

Also there are certain positive deterrents to exposure to infection such as notification of cases of gonorrhea under legal provisions by practically all of the States, supervision of prostitutes and their segregation, while infectious, under adequate treatment, and the abolition of houses of prostitution. With regard to the latter measure, there appears to be wide divergence of views. These places are considered by some authorities a necessity for the limiting of the spread of infection by supervision. Their suppression is advocated by others in the name of morality and in respect of the dignity of women, as well as because of the belief that they are without effect on prevention and that the elimination of restricted districts from cities with their facilities for the practice of irregular sex life, has greatly promoted good health and to an appreciable extent decreased the risk and prevalence of gonorrheal infection.

The second postulate, the prevention of the dissemination of the infection by the infected, may be satisfied by no known single measure but rather by a combination of several. One of the most practical and potentially far-reaching measures for extending health protection to the public and promoting social hygiene is the periodic physical examination of each person by his own physician. A complete examination at periodic intervals not only offers opportunity to the watchful physician to give advice in respect of personal hygiene and the avoidance of exposure to infection, but also for the discovery of existing, and possibly latent, gonorrheal infection.

But the rôle of the physician in the prevention of gonorrhea is much more positive than the making of periodic examinations as complete as they should be, as important as this measure is. These examinations should, and do, connote the treatment of all cases coming under his care until assured of a cure.

Of other important preventive measures I can only mention the requirement of prenuptial medical examinations of prospective partners in wedlock (by 12 States), the establishment of prenatal clinics where mothers are examined for the discovery of possible gonorrheal infection, and the compulsory notification of cases of gonorrhea applying for treatment.

The provision of State laws requiring the segregation of mentally abnormal women of child-bearing age, while directed primarily to limiting the multiplication of feebleminded delinquents and other types of individuals who are unable to adjust themselves to the conventions of organized society, is also a control measure against prostitution and attendant spread of gonorrhea and other venereal diseases. One feebleminded woman may be the mother of several children also feebleminded and potential criminals or prostitutes.

In a psychiatric study of 206 sexually delinquent women at the State Industrial Farm for Women, Lansing, Kansas, in 1918, in connection with the program of venereal disease control in the extra-cantonment sanitary zone of the state, slightly over 55 per cent. of them were found affected with mental disorders and over 30 per cent. of them were definitely feeble-

minded. But more to the point is that gonorrhea was found in 93.6 per cent. of them[12].

In a parallel study of 100 delinquent white women (who were inmates of the Jefferson County Jail, and other institutions in Louisville, Kentucky) examined for the control of venereal disease in the extra-cantonment zone about Camp Taylor, 87 per cent. had definite mental disorders and 38 per cent. were feebleminded. Moreover, in 81 per cent. smears made from the cervix and urethra were positive for gonococci[12].

The quality of the medical service available to communities and individuals and the character of the clinical standards are in direct relation to the adequacy of the treatment for venereal infections and the completeness of their cure. The fact is obvious. A great improvement has been made along these lines in recent years. The standards of medical education have been raised, better teaching facilities are provided, courses in public health are incorporated into the curricula of more and more medical schools to a degree that the average graduate in medicine is better drilled in theory and practice than his predecessors. As a consequence of this change the venereal diseases are being treated more competently and completely with less danger of the spread of infection to others than formerly.

There is growing conviction that except under military or quasi-military discipline the establishment of prophylactic stations and the advocacy of self-disinfection or prophylaxis, as you please, is of doubtful value for the control of gonorrhea. In civil life where the patients are not under control, active prophylaxis presents great difficulty since the patients, even when they do come for treatment, are very apt to come long after exposure when prophylaxis is less effective and only serves to create a false sense of security. For these reasons, except for the rather wide distribution of educational material, the activities of the Public Health Service along these lines have been confined largely to attempts to enlist the coöperation of steamship companies to provide prophylactic facilities for sailors. It is gratifying to note that these attempts have met with considerable success.

In conclusion I regret to admit that the numerous measures for the control of gonorrhea that have been mentioned so far seem to have made but little if any impress on the prevalence of this disease. On the contrary, there is accumulating evidence to the effect that both in America and in Europe the trend of gonorrhea infections is upward. The results of a recent survey conducted in New York State indicate that the disease is definitely on the increase. One can but be impressed by these findings which indicate there is no single or simple solution of the gonorrhea problem. Law enforcement does not protect the individual from his lack of inhibitions. Sex education is not equally effective in all groups of society. Therefore, as I see it, the solution of the problem, if it is brought about at all, will be through the coördination of all measures with special emphasis on research, provision of facilities for skilled treatment for all classes of society, and the full coöperation of the medical profession to treat every case until a cure is effected.

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LABOR ENDORSES BILLS CURBING WOOD ALCOHOL

Organized labor in six states has arrayed itself against the indiscriminate sale and distribution of methanol wood alcohol which has flooded the market for automobile anti-freeze and other commercial uses since labor won its fight for tax-free denatured alcohol twenty-five years ago.

Legislation to protect the worker in the painting and allied trades and in other industries is pending in New York, Pennsylvania, New Jersey, Wisconsin, Maryland and Maine.

Philip Zausner, seecretary of the Painters and Decorators District Council, authorized to represent 52,000 workers in the paint and building trades of New York opened hostilities in New York when he strongly urged the adoption of the Thompson bill at a hearing held before the Senate Codes Committee at Albany.

The bill prohibits the sale of methanol, a synthetic wood alcohol, for use in any article of food, drink, medicinal or toilet preparation or for use as an automobile anti-freeze and requires that for any other commercial purposes it be sold with a label stating that wood alcohol is extremely poisonous and may cause blindness or death if it enters the body through the mouth, by skin absorption or by inhalation of vapors. Many painters have died, lost their eyesight or have been permanently disabled from breathing the fumes of wood alcohol solvents in confined spaces.

Zausner opposed the McNaboe bill endorsed by methanol manufacturers and others because it fails to give adequate protection to the worker and does not indicate that methanol is wood alcohol. Similar bills favored by manufacturers are being opposed by labor leaders in other states.

THE NEW HAMPSHIRE MEDICAL SOCIETY

REDUCTION OF DISLOCATIONS OF THE SHOULDER JOINT

BY FRED ELLSWORTH CLOW, M.D.*

NO claim is made for originality in the following method of reduction of certain shoulder dislocations. It has been found useful in subglenoid and subclavicular dislocations, the types most frequently encountered, even after failure of conventional manipulations, or where the head has been out for a considerable time.

A bed of ordinary height, or a low table is best adapted to the procedure. The patient is anesthetized and brought well over to the edge. The operator stands "in the axilla", facing the chest, one hand firmly grasping the patient's wrist, the unengaged hand making gentle pressure on the head of the humerus. With complete relaxation steady pressure is made with the thighs against the upper arm, outward and upward, with slight traction on the wrist. The head of the humerus promptly slips back into place. Primary anesthesia is usually all that is necessary except in the case of strong muscular men.

Very little force is required to effect reduction; and the operator's thigh forms a fulcrum that distributes pressure over a large area, for

so short a time that the vessels and nerves are compressed very slightly. Where the operator must also be his anesthetist this method is particularly applicable.

*Clow—Medical Officer, Huggins Hospital, Wolfeboro, New Hampshire. For record and address of author see "This Week's Issue", page 732.

MISCELLANY

ANNUAL MEETING

The 140th Annual Meeting of the New Hampshire Medical Society will be held on May 19 and 20 at the Hotel Carpenter, Manchester, New Hampshire.

Dr. William Gerry Morgan, President of the American Medical Association, will be the honored guest of the Society.

The usual exhibits will be open for inspection.

RADIO TALK GIVEN BY MR. WILLIAM T. FRARY FROM STATION WEEI ON WEDNESDAY, MARCH 25, AT 5:15 P. M. FOR THE NEW HAMPSHIRE TUBERCULOSIS ASSOCIATION

When the safety of our nation is at stake, our country as a whole rises to the occasion. Cities forget their prejudices; states ignore their rights; and the country as a whole unites. In this very unity, strength is obtained and the foe is overcome.

It is this same unity or coöperation that makes the New Hampshire Tuberculosis Association one of the strongest branches in the National Organization. In contrast to the tuberculosis organizations in many of the states, New Hampshire has no local or county associations. In having the one state organization a very satisfactory tuberculosis program has been provided for each of the ten counties in the state. This has been done at a minimum of expense and has the added advantage that the small sparsely settled rural counties have had all the benefits of a highly specialized tuberculosis program which would have been practically unattainable if they had been left to their own resources.

Of paramount importance to the success of the whole plan has been the significant fact that by mutual agreement of the official and non-official health agencies, the entire tuberculosis program has been under the direction of the State Tuberculosis Association. By this means the development of the program has been greatly accelerated. There has been practically no friction or misunderstanding.

In New Hampshire practically all of the health work in each of the ten counties is planned and organized and developed from the State Office of the Board of Health, The State Board of Education, and the State Tuberculosis Association of which the Governor, John G. Winant, is the President. With such a powerful army as this, disease and sickness have very little opportunity in the Granite State.

Prevention and education are the corner-stones upon which the New Hampshire Tuberculosis Association is founded. In September 1917 the Association was organized. When it came into being, the state as a whole was uninformed as to its tuberculosis problem, and therefore indifferent to the necessity for aggressive effort against the disease.

There were two sanatoriums already established, one at Glencliff with 50 beds, and another at Pembroke with 30 beds, also at the Hillsboro General Hospital, there were 28 beds available for advanced cases. This was a total of 118 beds. The death rate from the disease during the period from 1907 to 1917 had been stationary, and averaged about 122 persons per 100,000 population. This meant in round num-

bers that 536 men, women, and children were dying from this preventable disease annually in the state. The number of *known* living tuberculosis cases was small, about 600 cases being known to the State Board of Health. The known cases were almost wholly in the advanced stages of the disease.

The first Tuberculosis Clinic in the state of New Hampshire had already been established in 1916 at Manchester by Dr. Robert B. Kerr, who since 1911 had been physician-in-charge of the Pembroke Sanatorium and later in 1917 became Executive Secretary of the New Hampshire Tuberculosis Association and under whose guidance, thought, and care, the present Association owes a great deal of its success.

The first objective of the New Hampshire Tuberculosis Association in the fight against the White Plague is to get a diagnosis of those afflicted while the disease is still in the early and curable stages. Even today the doctors find that when the average individual presents himself to a physician for a diagnosis of a possible lung trouble, tuberculosis, if present, is usually in the second or third stages of the disease. For, as a rule, the individual is reluctant to go to the doctor, until definite and serious symptoms appear.

Early cases are, therefore, for the most part, either "picked up" accidentally, or searched out. They may be detected when a patient is being examined by the school physician or in health conferences which are conducted by the New Hampshire State Board of Health. Adult cases are found among those who are applying for life insurance, by physicians in industrial plants or by the practising physician who makes a thorough physical examination of every one consulting him for symptoms of other diseases. For the most part, however, cases picked up are referred to the clinics for confirmation of the diagnosis. The public health nurses of New Hampshire find a considerable number of such cases. These nurses are well trained, keenly interested in their program and are in close touch with all who can help them in the discovery of early cases.

The tuberculosis clinic is naturally the center of the work. Annually between 5,000 and 7,000 persons are examined and these nurses annually visit approximately 26,000 homes throughout the state. There are 92 Clinic Centers in the State of New Hampshire.

Since early in 1925 the New Hampshire Tuberculosis Association has concentrated its campaign upon the efforts for the discovery and prompt treatment of children infected with tuberculosis, with the object of stopping the source of the stream which eventually filled the sanatoriums.

Teaching health to the children of New Hampshire is one of the most important departments of the New Hampshire Tuberculosis Association. In this service the school authorities, teachers, nurses, and physicians give their unanimous support. Besides the health instruction to the children coming under the supervision of the Association in the regular clinics and during the school examinations, thousands of the New Hampshire boys and girls are reached with a direct educational message through the Modern Health Crusade for Children and the Keep Well Clubs.

The Modern Health Crusade is a practical method of teaching cleanliness and health habits to children. The successful application of this program depends very largely upon the interest and encouragement of the school teachers, and it is particularly important that this field of work is developed among the rural schools.

In 1929 New Hampshire led the New England states in the Health Playwriting Contest. These contests were sponsored by the New England Tuberculosis Conference. The New Hampshire Tuberculosis Association sponsored and organized the contest in New Hampshire. The success was remarkable, which was due largely to the coöperation given by the State Board of Education of New Hampshire. Thirty-two health plays were written by high school pupils in the state, and presented by them before thousands of boys and girls in high school assemblies. Educators and health officials throughout New England are unanimous in their expression of the value of the contest in stimulating a live interest in correct living. Similar contests are being planned to be held during the coming spring months.

In summing up the general program of the New Hampshire Tuberculosis Association, we find its success is due to the following facts:

First: That from the earliest beginnings of public health work, the people of New Hampshire have been most receptive and coöperative.

Second: There has been the most complete harmony in the planning and development of the program on the part of the official and non-official health agencies:

Third: That the official health agencies have been very active and have developed comprehensive programs into which the tuberculosis plan has fitted with perfect ease, assisting in creating a well-rounded health program for each of the ten counties in New Hampshire.

REMOVAL

Dr. D. C. Moriarty has moved from Groveton to Newport, New Hampshire.

ROCKINGHAM COUNTY MEDICAL SOCIETY

MEETING, U. S. NAVAL HOSPITAL, NAVY YARD, PORTSMOUTH, N. H., THURSDAY, APRIL 2, 1931

Clinic—10 A. M.:

Medical: Lieutenant-Commander W. H. Funk.

Surgical: Lieutenant-Commander J. B. Logue.

Nose and Throat: Lieutenant-Commander C. D. Allen.

Lunch—12 Noon.

2 P. M., Portsmouth Hospital:

Demonstration—Spinal Anaesthesia, X-ray Film, Dr. L. R. Hazard.

JOHN C. W. KNOWLTON, M.D.,
Secretary Rockingham Medical Society.

VERMONT STATE MEDICAL SOCIETY

CRANIOCEREBRAL INJURIES*

BY JOHN S. HODGSON, M.D.†

ONLY 10% of craniocerebral injuries demand surgical intervention, while 90% are treated nonsurgically.

Operation is indicated in compound fracture, simple depressed fracture, extradural middle meningeal hemorrhage, subdural hematoma, and certain cases of severe injury producing acute rapid rise of intracranial pressure.

Compound fracture of the skull with or without brain damage calls for surgical treatment. This should be done as soon as the patient's condition permits. It should be delayed during shock, which should be treated at once. Before operating, a neurological examination must be made to determine the extent of intracranial damage locally or elsewhere, spinal puncture should be considered and usually performed, and x-rays should be taken. While the compound fracture needs attention there may be distant focal signs or general increase of intracranial pressure requiring additional treatment. Too great stress cannot be laid on the necessity of meticulous care in the cleansing and debridement of these wounds, the examination of the dura for possible indriven particles of bone, and in the event of torn dura or lacerated brain, of search for clot, spicules of bone or foreign bodies, and again the careful handling and cleansing of injured and exposed tissues. Torn dura is better closed unless infection is feared, and as much as possible of the bone retained and replaced. Scalp wounds should always be sutured and not left open, and the technique should be such that the scalp may be closed tightly or drained not over 48 hours. A prophylactic dose of antitetanic serum should be given in all cases of compound fracture of the skull.

Simple depressed fracture of the skull generally calls for operation. Exceptions may be made, depending on the degree and location of the fracture. Operation does not always have to be done immediately, but may be deferred until x-rays have been taken and the patient's condition has improved. Much depends on the x-rays in these cases, for the degree of depression or even the presence or absence of depression cannot be accurately determined by inspection or palpation. It is sometimes difficult to decide whether to operate where the depression is slight and the location such that focal or general signs are not likely to develop. Some of these may be left unexplored with safety, but with regret if epilepsy follows. Operation should include exploration beneath the bone as well as elevation of the depression. This may necessitate removing and replacing the depressed bone in a single piece or in fragments and this prolongs the procedure but it should nevertheless be done. An effort should be made to preserve all fragments or as many as possible, to avoid bone defects.

Hemorrhage from the middle meningeal artery coming usually from the posterior branch, with resulting extradural accumulation of blood, and local and later general pressure signs calls for early operation. In no other type of cranial trauma is operation more clearly indicated or urgent, or more successful if performed promptly. Death is avoidable. The diagnosis of middle meningeal hemorrhage may be made from the history alone and is suggested if after a localized blow on the side of the head over the temporal bone, there is loss of consciousness, followed by recovery, then, after a period usually a few hours, gradually increasing drowsiness, even coma, aphasia, unilateral twitchings or Jacksonian convulsions, and hemiparesis. The presence of such unilateral signs as convulsions, increased reflexes, and paresis is confirmatory.

The question arises as to the necessity, value or wisdom of spinal puncture in such cases. Some consider that lumbar puncture is unnecessary and dangerous. This attitude may be correct if the picture is clear or the signs suggest great increase of pressure. If, however, the history while suggestive leaves doubt, if, external evidence of injury is slight or absent, if the subject is of middle age or beyond, if blood pressure is increased, lumbar puncture may be necessary and valuable in the differential diagnosis. The objection to it is based on the belief that reduction of increased intracranial pressure by withdrawal of cerebrospinal fluid through the lumbar needle permits of further hemorrhage with subsequent increase of local and general pressure. If the pathology in this type of case be borne in mind such errors need not occur; that is if it is remembered that the hemorrhage is extradural it follows that the cerebrospinal fluid should be essentially clear. If therefore a lumbar puncture is done and shows clear fluid under considerable increase of pressure, the diagnosis is evident and lowering of pressure by withdrawal of cerebrospinal fluid is not attempted. The loss of two or three cc. of fluid necessary to fill the spinal manometer should not lower pressure sufficiently to allow increased bleeding outside the dura. Operation should quickly follow puncture, and consists in subtemporal removal of bone down to zygoma, exposure and removal of blood and clot overlying the dura, the locating of the bleeding point in

*Read at the meeting of the Vermont State Medical Society held at Burlington, Vermont, October 2 and 3, 1930.

†Hodgson—Assistant Visiting Surgeon, Massachusetts General Hospital. For record and address of author see "This Week's Issue", page 732.

the middle meningeal vessel which may be deep down near the base of the skull, and the application of silk ligatures, dural clips, or the high frequency current. The need of early diagnosis and of immediate surgery is great.

Subdural hematoma is a term used to designate a traumatic collection of blood beneath the dura between dura and arachnoid. The blood may be essentially fluid, clotted, or there may be organized membrane. The hematoma is enveloped by a membrane. On the side toward the arachnoid the membrane is thin and covered with mesothelium and is not adherent to arachnoid. On the dural side the membrane is thicker and is composed of organizing granulation tissue containing large mesothelium-lined spaces surrounding blood and fibrin. These spaces appear to anastomose with one another and with the capillaries of the organization tissue. The membrane is slightly adherent on the dural side. The source of these hematomas is often obscure. The question as to whether they represent persistent slow or repeated hemorrhage is also not settled. An individual predisposition is considered likely. Whatever the source of hemorrhage, organization begins chiefly from the dural side. This type of hemorrhage is usually not rapid, and may run a slow chronic course before detection. It may become manifest within a few hours but usually after several days, a few weeks, or only after months or years. The history, neurological and spinal fluid findings are highly suggestive, almost as typical as are those in middle meningeal hemorrhage, but because the condition is uncommon it may easily go unrecognized. The head injury is frequently slight, consciousness may have been retained or only momentarily lost and the patient's condition at first may seem satisfactory. Spinal puncture may show blood-tinged fluid under normal or slightly increased pressure. One's first impression is that he is dealing with intracranial injury with hemorrhage into the subarachnoid spaces of the ordinary type, and that routine observation and repeated puncture will suffice. If followed closely, however, it will be observed that progress is not as expected. The patient may remain drowsy, irrational, or if alert and rational may complain of headache. There may or may not be localizing signs, and the eyegrounds may begin to show evidence of pressure. Further spinal punctures may reveal failure of the cerebrospinal pressure to return to normal, or an actual increase of pressure along with gradually clearing, sometimes xanthochromic, cerebrospinal fluid. This course may take a short time, several days or a few weeks, or it may be slower than this and consume many days, a few weeks, or many weeks or months. Such cases ought to be recognized if properly followed and treatment instituted sufficiently early. If, however, the subjective symptoms are underestimated, if repeated neurological examinations, including eyegrounds, are neglected, and if subsequent spinal punctures with accurate pressure readings are omitted, the subdural hematoma may attain large proportions, resulting in such serious sequelae as psychosis, paralysis, blindness, or even coma and death. The treatment consists in operation with decompression and removal of the blood or membrane, as spinal puncture is not of lasting therapeutic value. The hematoma can usually be localized and the operation may consist in either a wide removal of bone in piecemeal fashion as in subtemporal decompression or better in some cases in an osteoplastic flap with decompression. The former type of operation is easier and quicker, and if one could be certain of removing the entire hematoma would be adequate though leaving an objectionable bony defect. Hematomas are often so extensive that if the patient's condition will allow it, a bone flap should be made, thus permitting a wider exposure and more complete removal. It is necessary to remove the entire hematoma with its membranes, owing to the possibility of progression. The dura need not be excised. Decompression in the flap is advisable in the presence of considerable increase of intracranial pressure owing to the danger of postoperative cerebral edema following removal of compressing or constricting hematoma. In a certain percentage of cases subdural hematoma is bilateral, and it is sometimes well to trephine on the opposite side of the head to settle this question.

There is another type of craniocerebral trauma which may call for operation, and rather early. This is the case of severe injury with resulting acute rapid rise of intracranial pressure frequently resulting in death. On admission the patient may be unconscious or semiconscious, there may be no localizing signs, and spinal puncture shows increased intracranial pressure, sometimes slight, again considerable. The prognosis may not seem hopeless or grave at first, and one decides to watch and wait and puncture again. In the course of a few or several hours, however, the clinical course becomes adverse, and subsequent puncture reveals further increase of pressure. Whereas originally surgery does not seem necessary, later, and frequently too late, the need of surgery becomes apparent. There is in these cases either continued hemorrhage, or steady increase in brain volume from contusion, laceration, hemorrhage, or edema. It is not always easy to anticipate this condition, but if it is to be dealt with successfully it must be recognized early. Spinal puncture alone or in conjunction with hypertonic solutions intravenously or otherwise does not suffice. Operation — subtemporal decompression— together with spinal puncture and hypertonic solutions is the best form of treatment. If done early and expeditiously it will save a few lives, but if delayed till signs of medullary compression occur will be of no avail

and may actually precipitate death. In this connection there is need of early and frequent lumbar puncture, as intracranial pressure is one of the best guides to the progress of the case. Puncture should be performed every hour or two for a few times until the course becomes clear. The clinical signs must be watched carefully, but spinal fluid pressure readings may be of earlier significance.

While operation is indicated in the types of cases described above, the majority of cases of craniocerebral injury are better treated non-surgically. This attitude is the result of former unsuccessful attempts to treat such cases surgically on a large scale and is the one generally held today.

The non-surgical treatment of craniocerebral injuries is based upon a careful estimation of the neurological condition and the degree of intracranial pressure and consists in the maintenance of normal pressure or the reduction of increased pressure, first by lumbar puncture and to a certain extent by hypertonic solutions. The diagnostic value of lumbar puncture in this connection is so great that it should be employed in the majority of cases. While a complete neurological examination is of first importance it has to be supplemented by spinal puncture which gives more direct information as to the presence of hemorrhage and the degree of intracranial pressure and at an earlier period than may appear in the clinical signs. In numerous instances I have found puncture of the greatest diagnostic help, and as a rule therefore I believe it should be performed. The objection to puncture has been made that it gives no information not obtainable without it and that it may actually be harmful. With the first of these statements I differ strongly. With the second of these I differ in the main, while admitting that in certain instances, usually, however, in extreme and inevitably fatal cases, death may be precipitated. As soon as shock has been overcome, an examination is made and lumbar puncture is performed. The patient is placed on his side with back arched and thighs flexed, and with a lumbar puncture needle of eighteen gauge, spinal puncture is done. The needle is connected by a three-way stopcock with a capillary glass manometer marked in millimeters and centimeters. In this type of manometer, used at the Massachusetts General Hospital, the readings are in terms of water pressure. An average normal intracranial cerebrospinal fluid pressure measured by this manometer is 150 millimeters. In performing puncture in these cases the character of the fluid is carefully noted, that is, whether it is clear and colorless, pinkish, or frankly bloody, and the pressure is recorded. If the pressure is over 200 mm. it is increased above normal, and a pressure of 300 is moderately high. Having thus far employed puncture diagnostically, puncture is now used therapeutically. If pressure is increased, cerebrospinal fluid is slowly withdrawn, a few cc. at a time, and pressures taken after each removal. While the object is the reduction of pressure to normal it may be unwise to attempt it on first puncture, especially if it is high; it is better to reduce it moderately at first and to repeat the puncture and further reduce it in the course of an hour or more. No figure can be given as to the amount of fluid to be removed; this does not necessarily parallel the pressure; the important point is to lower increased pressure. Stress must be laid on the value and necessity of repeated lumbar puncture at short intervals, especially early during the first few or several hours where the pressure is elevated. Unless this course is pursued the full benefit of puncture is not realized, and at times pressure may be mounting without exciting suspicion clinically. Punctures should be repeated until pressure returns to normal and remains there. There is a certain small number of cases, generally obvious, where spinal puncture is not only of no avail, but may positively hasten death, those with signs of excessive intracranial pressure and medullary compression, namely, cyanosis, and rapid stertorous or Cheyne-Stokes respiration. Pressure is already beyond control, and withdrawal at such a critical time of even small amounts of fluid from the spinal subarachnoid space removes the last bit of resistance to complete and fatal medullary pressure cone. The practice of performing lumbar puncture without a manometer cannot be too strongly condemned. There is no way of accurately estimating pressure by merely observing the rate of flow of fluid from a puncture needle; treatment is consequently unintelligent and may be risky.

Lumbar puncture is of value in removing fluid and blood from ventricles, cisternae and subarachnoid spaces. While it does not exert a direct effect on increased volume of brain substance itself it nevertheless proves effective in lowering pressure. For combating increased brain volume due to edema, contusion and laceration, such dehydrating agents as saline, glucose, and dextrose are used intravenously, or saturated solution of magnesium sulphate by mouth or by rectum. These solutions are not used on so large a scale as is spinal puncture in the average clinic, but there are those who consider them of greater value than puncture. On the other hand a certain number of authorities are skeptical of their value. For my part I use hypertonic solutions intravenously in a rather limited number of cases, chiefly those not progressing satisfactorily after repeated lumbar puncture despite the existence of normal cerebrospinal fluid pressure, also for a time in cases with increased pressure not responding to lumbar puncture. In some of these cases there is brain edema that requires more direct attack than by puncture. The principle involved in the use of hypertonic solutions is that of dehydration by osmosis. The brain, because of

its sponge-like structure, is capable of taking up fluids, sometimes with considerable increase in bulk. Following intravenous injection of solutions of 25 to 50% dextrose or glucose or 15% saline, there follows on the part of the organism an attempt to neutralize the excess solid material in the blood stream; the body tissues give up their fluids, and some of the dextrose probably gets into the body tissues (notably the brain) until a normal osmotic tension occurs. The action of saline may occur within half an hour, and the reduction in brain volume may be striking. The action of sugar (dextrose or glucose) is somewhat slower in onset but more lasting and less toxic. These solutions should always be given slowly—not over 3 cc. a minute. Twenty-five to fifty per cent. dextrose intravenously is most commonly used. Magnesium sulphate—saturated solution—may be given for the same purpose by mouth or by rectum. As an adjuvant form of treatment it is useful and I employ it routinely while pressure remains increased.

The question of restriction of fluid intake in cases of craniocerebral injury requires consideration. One writer has advocated a total daily intake of not over 300 to 400 cc. of fluid by mouth the first three or four days, the gradual increase to 1000 cc. daily, its maintenance at that level the first three months and after that not over 1500 to 2000 cc. daily indefinitely. This is in keeping with the assumption held by some writers of impaired absorption on the part of the arachnoid villi following trauma and hemorrhage and scar tissue formation. I believe that while intake of fluid should not be forced in principle there is definite danger in carrying limited intake too far the first few days, and for this reason I begin about the second or third day to get the fluid intake up to 800 to 1000 cc. During the first 24 hours the total intake may be kept lower than that, but after that, especially if there is vomiting or temperature increase, the body requires more fluid, and unless this is given, the patient's condition on this account alone may be dangerously affected. One thousand cc. of fluid daily for the first three months and 1500 to 2000 cc. daily thereafter indefinitely is probably adequate. The general body fluid intake requirement and the presence of increased intracranial pressure after all should be the guide as to the amount of fluid allowed.

Cases of craniocerebral injury should be treated for shock, and external bleeding should be checked. Temperature, pulse, and respiration should be taken every fifteen minutes and blood pressure half hourly. An examination to determine the extent of the injury and the neurological condition including that of eyegrounds, is made. Lumbar puncture is done and the character and pressure of the fluid, the latter being considered an index of intracranial pressure, is noted. The correlation of vital and neurological signs with lumbar puncture findings determines the course of treatment.

The roentgenographic examination of the skull, while important, should be deferred if possible until the patient's condition will not thereby be jeopardized. If a compound fracture is present or if a depressed fracture exists or is suspected, x-rays may be needed early. X-rays are important as showing the location, type and extent of fracture and may demonstrate extension into areas not known clinically to be involved, as paranasal sinuses, inner ear and mastoid. They settle the question as to whether a depression exists beneath a scalp hematoma, also the degree of depression. This knowledge is valuable from the point of view of prognosis and treatment. Occasionally x-rays surprise by showing a fracture not anticipated in the presence of a history not suggesting severe trauma, negligible external marks of injury and lack of evidence of intracranial damage. From the medico-legal aspect one hardly need mention the value of x-rays, showing tangible visible proof of cranial trauma. Instead of belittling the value of x-rays and laying entire stress on the intracranial injury, I am more and more convinced of their importance. They can, however, usually be withheld until the patient's condition permits. Patients are kept in bed varying periods of time, depending upon the severity of the injury, those of concussion sometimes only a few days, those of more severe injury on the average three weeks, often longer. Special nursing is necessary.

Sedatives used are bromides, luminal, choral, or paraldehyde, and morphia at times. While realizing the danger of morphia in certain cases of increased intracranial pressure, I believe the danger of permitting uncontrolled activity of the patient is even greater. I get along without morphia when possible, but I use it successfully sometimes, always carefully watching respiration.

The necessity of making a careful initial neurological examination and of repeated reëxaminations is definite. The eyegrounds must be followed closely. I have seen patients clinically progressing satisfactorily and yet developing choked disc. Either the eyegrounds must be checked frequently or lumbar puncture must be done until there is no further question of trouble.

Examination of the nose and ears is also necessary in determining the involvement of the base of the skull, anterior or middle fossa. In the absence of local trauma bleeding from the nose should be suspected of coming from a fracture of the base of the skull unless proved otherwise; this is important from the prognostic point of view. The possibility of posttraumatic meningitis following fractures in this region is considerable. Fracture of the base of the skull involving the middle fossa and temporal bone frequently results in rupture of the eardrum

with external bleeding, but not necessarily. Examination of the ear may disclose a bluish bulging unruptured drum due to hemorrhage into the middle ear. Such a finding puts one on the alert for possible complications, as otitis-media or mastoiditis. The eardrum in such cases is left intact as a rule.

The subject of encephalography from the diagnostic and therapeutic standpoint is of interest. If, in posttraumatic craniocerebral cases, the cerebrospinal fluid is withdrawn in considerable quantity and replaced by air it is possible to visualize the cerebral ventricles and cortex and to compare them with the normal. It has thus been shown that pathologic changes occur in the frontal and parietal regions. These changes consist in cerebral atrophy, often in the absence of neurologic signs or in the presence of few subjective symptoms. The degree of atrophy has frequently been out of all proportion to the severity or location of the injury and resembles that seen in other states—postmeningitis, birth hemorrhage, mental deficiency, etc. Such changes are considered by some to be in part due to interference with elimination of cerebrospinal fluid through the arachnoid villi or Pacchionian bodies following undrained hemorrhage, irritation of arachnoid cells, scar tissue formation, increased accumulation of cerebrospinal fluid in the subarachnoid spaces, with resulting cortical pressure atrophy. While agreeing that such air injection may provide evidence of cortical atrophy and enlarged subarachnoid spaces, I am not prepared to accept this explanation of the cause, which seems opposed to certain established physiologic principles of intracranial cerebrospinal fluid circulation.

The therapeutic value of air injection performed in the same manner as for diagnostic purposes is somewhat uncertain or variable. In a rather limited number of cases so treated coming under my observation I have felt that while results have not been very encouraging the method deserves consideration in certain instances where the symptoms are severe and refractory.

GUARDING HEALTH OF WAGE EARNERS

Had 20 men begun work at the dawn of the Christian era and worked continuously, passing on their labor to another 20 and these in turn to others, on down through the ages, they would just now be making up the time lost as the result of industrial accidents in Ohio in the single year of 1930.

As incredible as this may seem, the record is still better than that of the preceding year, when it would have taken the labor of almost three more men to accomplish the same result.

While this tremendous waste of productive capacity is sufficient to startle even the most unimaginative, it is but a mere drop in the bucket compared with the loss of time due to sickness of workers.

A large iron and steel corporation with its central unit located in Ohio and which is keenly alive to the physical welfare of its employes, kept tab on the records for a number of months and discovered that, for every day lost as the result of accidents, 30 days were lost by reason of illness. Apply this ratio of 30 to 1 to the picture of a score of men laboring since the birth of Christendom and we have a sizable plant working full time all through the centuries to make up the waste due to accidents and illness in Ohio in a single year.

"Safety and Hygiene" are inseparable in the unceasing efforts to approach that millennium when every man will be at all times capable of giving his full time to his tasks and of reaping the benefits of uninterrupted service.

Time loss as a result of sickness that might be prevented by adherence to the ordinary rules of hygiene and common sense, is just as much of a blow to efficiency and production and just as damaging to the physical and financial well-being of the worker, as that due to industrial accidents. This being the case, and if the ratio found by the Ohio plant above mentioned can be considered as typical, it follows that not only safety, but health as well, should be a problem deserving of much time, thought and action on the part of industrial organizations and their employes.

The season is at hand when special precautions for the conservation of health are needed and the problem is of sufficient importance to warrant a well-defined program for the preservation of the health of workers as well as that designed to protect them against accidents. Most plants have such concurrent programs and have found them very beneficial in elevating the physical standards of their employes as well as inculcating safety consciousness.—*By Thomas P. Kearns, Superintendent, Division of Safety and Hygiene, State of Ohio.*

MORTALITY RATES

Telegraphic returns from 81 cities with a total population of thirty-six million for the week ending March 14, indicate a mortality rate of 13.8 as against a rate of 13.2 for the corresponding week of last year. The highest rate (36.4) appears for Louisville, Ky., and the lowest (5.8) for South Bend, Ind. The highest infant mortality rate (20.4) appears for Atlanta, Ga., and the lowest for Canton, Ohio, Dayton, Ohio, Duluth, Minn., New Haven, Conn., and South Bend, Ind., which reported no infant mortality.

The annual rate for 81 cities is 14.1 for the eleven weeks of 1931, as against a rate of 13.3 for the corresponding weeks of 1930.

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 17141

DYSPNEA AND COUGH FOR FIFTEEN MONTHS

MEDICAL DEPARTMENT

First admission. An Irish-American of forty-three working as a parcel post deliverer was referred to the Outpatient Department December 7 for study. The chief complaints were cough with sputum, weakness and shortness of breath on exertion of fifteen months' duration.

The cough began with sudden onset. At the same time he had some weakness and shortness of breath on exertion. Both the cough and sputum became more marked. In November, two months later, he developed a sore throat and raised some bloody sputum. The sore throat and bloody sputum both cleared up after he painted his throat with iodine. Shortly after this the cough also improved and did not trouble him for two months. In February the cough, weakness and dyspnea again became worse and persisted, with much stringy, frothy sputum. He found that he slept better on three or four pillows. During this spring he was troubled for two months with severe pain in his right side after severe coughing. In June he went to an island. Then all these symptoms improved and the pain left him. He remained on the island until August, then returned to his work in town. He felt fairly well for a while. Then the cough, weakness and dyspnea returned and grew slowly but steadily worse.

His father and one brother died of heart trouble, his mother of kidney disease and heart trouble. One living sister had heart trouble.

His past history was negative except for pneumonia at thirteen and urination once a night for one or two years.

Examination in the Throat Room a week before admission showed a deviated septum. On transillumination the left antrum was darker than the right. The tonsils were moderately hypertrophied. There was chronic laryngitis. His temperature was 100.6° following a chill the night before. Hinton and Wassermann tests were negative.

X-ray examination showed the sinuses negative. The lower half of the right lung field was dull, the dullness increasing towards the base, where it obliterated the costophrenic angle and obscured the lines of the diaphragm. In the upper portion the shadow was mottled. In the lower it was of fairly even density. The interlobar septum was visible on this side. The respiratory movements of the diaphragm were limited. The hilus shadows were considerably increased in size and density. Otherwise the lung fields were clear. The heart shadow was enlarged in all diameters and somewhat triangular in shape. The shadow of the pulmonary conus was distinctly prominent. No unusual pulsations were noted. The aorta was not dilated. There were no mediastinal masses. Examination showed evidence of compressed or consolidated lung at the right base with fluid in the pleural cavity, and of enlarged and dilated heart (total transverse measurement 17.8, great vessels 7, chest 31.7).

Clinical examination in the wards showed a well-nourished man comfortably lying flat. There was marked pigmentation (sunburn) of the thighs and legs. A soft gland was felt in the left axilla. There was dullness at the right base in the back with medium moist crackles, more than on the left. The apex impulse of the heart was seen and felt in the fifth space 11 centimeters to the left of midsternum. There was enlargement to percussion also in the region of the left auricle or conus. There was a sharp localized thrust at the apex and an indistinct systolic thrill, also a systolic thrill at the base and in the carotids, felt at the base only when the patient leaned forward. At the apex the first sound was sharp and accompanied by a rough systolic murmur heard all over. Another rough systolic was heard at the base. The pulmonic second sound was accentuated, the aortic second absent. The left radial pulse was not felt, but there was good pulsation of the artery of the thumb. Slow rise and fall was suggested. The radial arteries were palpable, the temporals and brachials slightly tortuous. The blood pressure at entrance was 105/75, the same in both arms. An electrocardiogram showed normal rhythm, rate 80, diphasic T_1 and T_2. The liver edge was just felt descending 2 fingerbreadths on inspiration. The genitals, extremities, pupils, fundi and reflexes were normal.

The urine was normal except for occasional red cells at one of three sediment examinations. Blood examination showed 19,000 to 8,300 leukocytes, 67 per cent polynuclears, reds, hemoglobin and smear normal. A Hinton test was negative. A blood culture showed no growth in two flasks. The sputa were mucopurulent at both of two examinations; no blood or tubercle bacilli were seen.

The temperature was 97.3° to 100.2°, the pulse and respirations not remarkable.

X-ray examination showed that the process at the right base had cleared up considerably since the last observation, but the costophrenic angle was still obliterated and the outline of the dia-

phragm still obscured. The heart shadow remained the same.

Three days after admission definite apical systolic and diastolic murmurs were heard, a rough systolic at the base and a faint short diastolic in the fourth left interspace at the sternal border. Thrill was doubtful at the apex and the base, although the day before a systolic thrill was felt at the base. There was fluid at the right base without râles. At the left base there were medium moist râles. The blood pressure in the right arm that morning was 110/70, in the left arm 95/80, with a corresponding full pulse in the right arm and faint pulse behind the thumb on the left. In the afternoon the blood pressure was 110/75 in the right arm and 110/90 in the left arm. Each reading was checked several times.

The morning of December 16 the patient had a sudden attack of vertigo while in bed, lasting fifteen minutes, with nystagmus with slow movement to the left. There was no loss of consciousness or paralysis, but he had pallor and sweating for half an hour after the dizziness and nystagmus stopped. An apical diastolic murmur seemed definite. A week later the patient was up and about feeling fairly well, with only slight dyspnea on moderate exertion. At his discharge, December 26, he was in rather good condition, without congestion.

History of interval. After leaving the hospital the patient retired on a pension and was able to take very good care of himself, usually staying in bed twelve hours out of every twenty-four. He spent nearly three months on an island, spending much time on the beach. He was symptom-free until July 15. Then he became nauseated, but did not stop his digitalis until after a day or two he vomited. Then he did stop digitalis and the next day had swelling of the ankles. This cleared up after two days in bed. After three days he resumed the digitalis and had no more trouble until the first of September, when he again vomited, stopped his digitalis and again had edema which disappeared after rest in bed. After he returned to Boston September 5 the edema recurred several times, clearing up each time with rest in bed. In the middle of October, two weeks before his second admission, he had edema which did not clear up with rest in bed. He remained in bed most of the time. October 21 he suddenly developed edema of the right arm and hand, not pitting like the edema of the ankles. This persisted to admission. For the three days immediately preceding admission he was weaker and his dyspnea and orthopnea were worse.

Second admission. On October 25, ten months after his discharge, he was sent to the wards from the Emergency Ward.

On examination he was deeply tanned and slightly cyanotic. There was a small amount of fluid at the bases of both lungs. The heart was greatly enlarged, the left border of percussion dullness 13 centimeters to the left, 8 centimeters outside the midclavicular line, the right border 5 centimeters to the right, the supracardiac dullness 6½ centimeters. At the apex there was a rough systolic murmur with a thrill, at the aortic a faint systolic. The pulmonic second sound was accentuated, the aortic second absent. The action was fairly rapid but regular. The blood pressure was 105/?. The abdomen showed slight shifting dullness. The liver edge was felt, pulsating, three fingerbreadths below the costal margin. There was considerable edema of the lower legs and the entire right arm.

The urine was normal in amount except on one day, when he passed 108 ounces. The specific gravity was 1.030 to 1.020. The urine showed a slight to a large trace of albumin at all of six examinations, rare to occasional leukocytes at five of six sediment examinations, rare red cells twice, rare granular casts four times, rare cellular twice. The renal function was 17 per cent. Blood examination was normal except for 15,800 to 12,000 leukocytes. Wassermann and Hinton tests were negative. The non-protein nitrogen was 60 to 70 milligrams, the creatinin 1.4.

The temperature was 95.8° to 100.1° by mouth until November 10, then 99.4° to 102° by rectum. The pulse was 70 to 112. The respirations were 18 to 46.

X-ray examination showed not much change in appearance, judging from the last note. The heart measurements were greater, the transverse measurement 20 centimeters, the great vessels 7.2.

On October 26 a definite apical diastolic murmur was heard with the patient on his side, with a questionable diastolic at the aortic area. Two days later a cardiac consultant did not hear a mitral diastolic murmur.

October 28 the patient fell out of his chair and had pain in the left chest on breathing. Pleural rubs were heard in the middle left anterior chest, absent the next morning. November 6 he had a rising pulse and a loud pleuropericardial friction rub, with the diuresis mentioned above, the output exceeding the intake. November 11 he was irrational at times and violent for a short period. The next night he had stercoraceous vomiting. He continued to be irrational. November 12 the vomiting was not stercoraceous, and November 15 it had practically stopped and he was quiet most of the time. November 19 he raved almost constantly all day. November 21 he slept rather quietly in naps, and in one of these suddenly died.

Clinical Discussion

BY RICHARD C. CABOT, M.D., AND
GEORGE W. HOLMES, M.D.

NOTES ON THE HISTORY

Dr. Cabot: Such a family history as that can perfectly well be true when we are dealing with

the hypertensive type of heart trouble. Hypertension certainly can run in a family and can of course affect the kidney and brain as well as the heart. Such a history may also be true when we are dealing with rheumatism, which also tends to run in families.

Although so much is said about cough here, the evidence on the whole faces towards heart disease rather than lung disease. An important lung disease running fifteen months generally has something more obvious in the way of sputum. That is something one cannot leave out of account. On the other hand lung disease running only fifteen months does not usually present such dyspnea.

The x-ray examination makes it look as if there were more in the lung than I thought, though I suppose it may be due to dropsy.

DR. HOLMES: This film has been very well described in the notes Dr. Cabot has just read. I think you can see that the heart is abnormally large. This is a more nearly normal sized heart in comparison. That chest is almost as large as this one and yet the heart shadow is much smaller. The appearance is such as we get with enlargement of the auricles from rheumatic disease or from dilatation. This is the prominent pulmonary conus that is mentioned. The lower part of the right lung field is considerably less radiant than the left. That is the sort of thing we get in congestion, and the absence of the costophrenic angles suggests some fluid.

DR. CABOT: The fact that the left radial pulse was not felt although good pulsation was felt in the artery of the thumb probably has no significance other than an idiosyncrasy in the placement of the artery.

The reasons for the slow rise and fall of the pulse I will go into in a moment.

It is rather surprising that there is no edema there.

The improvement shown in the x-ray taken when he was in the wards of course tends to substantiate the guess I made in the beginning that his trouble was due to passive congestion, not to organic lung disease.

What the change in the blood pressure in the left arm in the afternoon means I do not know. I do not see how it can mean anything of importance.

Rheumatic heart disease certainly I should say is the diagnosis at the end of the first admission. I do not believe there is anything else that it is likely to be. There is no good evidence of syphilis, and that is the only other type of heart disease that gives an apical diastolic murmur. Aortic stenosis is perfectly clear, basal thrill, basal murmur, the absence of the aortic second sound and a pulse which seems to correspond with the rather low pulse pressure. We have better evidence of aortic stenosis than of mitral stenosis, but the evidence of mitral stenosis is pretty good also. I suppose the rheumatic process was there a long time, and there is quite possibly something on the tricuspid. Rheumatic heart disease and chronic passive congestion showing itself as it often does, more in the right than in the left pleura; no evidence of any primary lung disease. Just why there is no more edema of the legs I do not know.

Of course that sudden edema of the arm just before his second admission seems to suggest thrombosis.

NOTES ON THE PHYSICAL EXAMINATION, SECOND ADMISSION

Both the non-protein nitrogen and the creatinin are a little high.

The fall followed by pain in the left chest is like the accident that he had during his first admission when he became so suddenly dizzy. It makes us suspect an embolus. We had come to suspect one in the arm. Now perhaps he has one in the kidney or the lung.

The stercoraceous vomiting is very surprising. Ordinarily that goes with intestinal obstruction. Nothing else in the case so far makes us think of intestinal obstruction.

DIFFERENTIAL DIAGNOSIS

Our basic diagnosis, I think, has not been added to by the evidence of this second admission. I still think it is a rheumatic heart. The question is, what else? I certainly think there is thrombosis of one of his arm veins, I suppose the subclavian. I think it is quite possible that he has had infarction of the lung, and if so quite probably that he has infarctions in the spleen and kidneys too. Is there any evidence of pericarditis in your films, Dr. Holmes? We always wonder in these cases of long-standing heart disease whether there is acute or chronic pericarditis.

DR. HOLMES: I cannot say so.

DR. CABOT: I can only give it as one of the possibilities.

Did he have acute endocarditis? There were certainly some queer symptoms at the end, much more in the way of cerebral symptoms than one expects. It seems to me as if there was some infection at the end. But possibly he was throwing bland emboli enough to give him a non-septic poisoning.

What evidence have we of a subacute bacterial endocarditis? That always ought to be thought of in a case like this. It is rather unusual to have a rheumatic case show no symptoms at all until forty-two. It is not at all unusual to see a subacute bacterial endocarditis begin at that time. Subacute bacterial endocarditis does not usually give such a big heart. There is no evidence of embolism to speak of until the second time he came in and never much fever or leukocytosis. There was only one slightly high leukocyte count. Embolism can be accounted for perfectly well without supposing a bacterial endocarditis. We have no good evidence of it, and

I think it is safe to say he did not have it, though I cannot absolutely exclude it. Without blood cultures we are not sure of it, and we have not that evidence here.

I do not believe there is any reason to suspect disease in any other organs except passive congestion and embolism with infarcts dependent on it. He may possibly have had acute pleurisy or acute pericarditis as a terminal infection, or bronchopneumonia; that might account for his delirium. I cannot do more than mention it, however, because there is no evidence.

A STUDENT: Isn't that non-protein nitrogen rather high for ordinary chronic passive congestion?

DR. CABOT: Yes. If he has either one of the two diseases that I hesitated between, either one of those quite often goes with glomerular nephritis, and if he had a slight degree of glomerular nephritis that would easily account for his high nitrogen. It is not at all typical of that, and he may have had infarcts enough to lower his renal function. Therefore glomerular nephritis seems to be a possibility, but not on the whole as probable as its absence.

CLINICAL DIAGNOSES (FROM HOSPITAL RECORD)

Mitral and aortic stenosis.
Cardiac decompensation.

DR. RICHARD C. CABOT'S DIAGNOSES

Rheumatic heart disease, aortic and mitral stenosis, possibly tricuspid stenosis.
Chronic passive congestion.
Possibly infarcts in the right subclavian vein and in the lungs.
Possibly terminal pleurisy, pericarditis, or pneumonia.

ANATOMIC DIAGNOSES

1. *Primary disease.*

Chronic and acute rheumatic heart disease; mitral and aortic stenosis, slight tricuspid stenosis.
Slight serofibrinous pericarditis.

2. *Secondary or terminal lesions.*

Thrombosis of the right subclavian vein.
Multiple infarcts of the lungs.

PATHOLOGIC DISCUSSION

DR. TRACY B. MALLORY: We found a very marked stenosis of both the mitral and aortic valves and some slight changes on the tricuspid. There was not only the chronic process but there was an acute one as well which I think is probably rheumatic in character, not a bacterial endocarditis. There was a slight serofibrinous pericarditis. The right subclavian vein showed extensive thrombosis, and evidently emboli broken off from that had produced multiple infarcts in his lungs. He did not have infarcts in the spleen or kidneys. There was no nephritis.

DR. CABOT: Was his brain examined?

DR. MALLORY: No.

DR. CABOT: How much did the heart weigh?

DR. MALLORY: 700 grams.

DR. CABOT: On the whole, it is a rheumatic heart.

DR. MALLORY: Straight rheumatic.

A STUDENT: What do you term the kind of acute endocarditis he had?

DR. MALLORY: Acute rheumatic endocarditis. It is typical of rheumatic endocarditis to recur repeatedly in an acute form on top of the scars of previous attacks.

A STUDENT: Was there any intestinal lesion to account for that vomiting?

DR. MALLORY: No.

DR. CABOT: So that so-called "stercoraceous vomiting" remains a mystery.

CASE 17142

A LOWER ABDOMINAL TUMOR

SURGICAL DEPARTMENT

PRESENTATION OF CASE

DR. SIDNEY C. GRAVES*: This is the case of a sixty-five year old white widow who came into the Emergency Ward complaining of pain in the sacrum and the abdomen.

Three weeks before entry she had fallen down and hurt her spine. She did not have much pain until about six days later, when the tip of her coccyx became so painful that she had to go to bed for two weeks. Following that the pain spread over the sacrum and was most severe there. Twenty-four hours before coming in here she began to have severe abdominal pain and vomiting. When she came into the Emergency Ward she was dehydrated and was considered a bad operative risk. She was sent to the wards.

Her past history was absolutely negative except that she had had a "stroke" two years previously. She had been told at one time that she had a fibroid uterus. The history of her systems was negative except for some dyspnea and nocturia. Her periods had stopped at the age of fifty-two. She had had no flowing since that time until one week previous to entry, when she had had a rather brown, thick discharge lasting a day or so.

On physical examination she was obese but much dehydrated. Her heart was moderately enlarged, with occasional dropped beats. The blood pressure was 125/50. There were a few crackles at both bases. The lungs were otherwise negative. The abdomen was protuberant. There was a large mass filling the entire pelvis up to the umbilicus, smooth and hard. By pelvic examination practically nothing could be felt. The cervix seemed to be drawn up; the finger

*Junior interne on the East Surgical service.

could barely reach it. Nothing definite could be felt by this route at least. The temperature was 104° and the white blood cell count was 28,000. She was thought to have either a necrotic fibroid or a twisted ovarian cyst. She seemed to be getting worse, so that she was operated upon the next day.

Following operation she did fairly well for twelve hours except that she seemed a little cyanotic. On the following evening, however, she became definitely more cyanotic, her respirations were more difficult and there was found to be absence of breath sounds on the right. She was thought to have collapse of the right lung. She died shortly afterwards.

Clinical Discussion

Dr. E. Parker Hayden: I saw this woman in the Emergency Ward the night she came in. There was a perfectly obvious mass in the pelvis which we thought was without much question a fibroid. She had a history of a foul vaginal discharge which was consistent with that, and she did have some temperature. Her temperature and white cell count were so high, and she seemed to be such a very sick woman, that we thought it would be better judgment not to operate but rather to send her up to the ward, get her into better shape, and wait to see if anything further developed.

The following morning she had a lower temperature, and it seemed as though perhaps this was confirmation of our judgment in waiting. A little later her temperature went up again. Several men saw her. It was the consensus of opinion that she should be operated upon. I operated in the early afternoon.

Dr. Graves: At operation a huge fibroid was found which was mostly of the cervix, with a small fundus on top of it. A complete hysterectomy was done. Because of the fact that there was pus in the pelvis and in the fibroid, a drain was put into the vagina. At operation there was one vein, apparently the uterine, on the left which seemed to be draining pus.

Dr. Hayden: It is interesting that the entire pelvis was fiery red, suggesting acute diffuse inflammation. As soon as I stripped the peritoneum off the uterus, going down along the sides as part of the hysterectomy, pus oozed from the mass in several spots. The fibroid was so low in the pelvis that it was a difficult hysterectomy to do. By the time I reached the region of the cervix I discovered that the dissection had taken me below it. There was no cervix; it was all taken up by the mass. I did a complete hysterectomy and sewed up the vagina around a drain. She had pelvic phlebitis, and one perfectly definite vein full of pus was opened. I could see the structure of the wall clearly. The outlook of course was extremely bad whether or not she was operated upon. It is the sort of case in which if we had not operated and she had died, we should have wondered whether it would not have been better to operate. As it turned out, we should perhaps prefer to have let her take her chance without operation.

Dr. Leland S. McKittrick: I have very little to add. I saw her the morning after admission. She was a very sick woman. There was no other cause for her temperature or her critical condition found except a large mass in the lower abdomen which was very tender, probably a necrotic fibroid, or possibly an ovarian cyst with a twisted pedicle. The fact that the cervix was very high and pulled out of the pelvis was in favor of its being a fibroid. A cyst probably would have pushed the uterus down into the pelvis.

In view of the distinct possibility of this tumor's being in some way the cause of her symptoms, and in view of the fact that she was not improving, it seemed to us that she would have a better chance of getting well if this mass which was presumably the cause of her critical condition could be removed.

Clinical diagnoses (from hospital record)

Cervical uterine fibroid.
Pelvic septic phlebitis.
Pulmonary embolus.
Massive collapse of right lung.

Anatomic diagnoses

(Cervical uterine fibroid.)
Septicemia, streptococcus hemolyticus.
Localized pelvic peritonitis.
Massive collapse of the right lung and the lower lobe of the left lung.
(Pelvic phlebitis.)

Pathologic Discussion

Dr. Tracy B. Mallory: The autopsy adds very little information. She had a definitely localized pelvic peritonitis, not a generalized one. She had massive collapse of the right lung, the entire lower and middle lobes and over half of the upper lobe being completely atelectatic. The left lower lobe also showed massive collapse. Blood culture showed hemolytic streptococcus, the same organism that we found in the pelvic veins at the time of operation. At autopsy we found no extension of the phlebitis. The larger veins of the pelvis were free. Evidently the process had been pretty well limited to the veins immediately around the uterus and most of the material had been removed with the surgical specimen.

Would there have been any possibility of diagnosing the pelvic phlebitis before operation, do you think?

Dr. McKittrick: I fear it would have been a very difficult diagnosis to make. None of us who saw her even suspected that that was the fundamental process. Dr. Whittemore saw her very close upon the time when I did and I am

sure neither one of us suspected a possibility of pelvic phlebitis as the cause of her condition. It is very difficult to get one's mind beyond a large tender tumor when associated with abdominal pain and temperature. Looking at the case in retrospect, I believe it would be a very difficult diagnosis to make.

DR. HAYDEN: I think the only suggestive points were the fact that she had a very high temperature and that the infection was quite acute. Anything that was done surgically would certainly be done at a risk. She seemed sicker than would be the case with merely a sloughing fibroid, but I did not visualize there being a phlebitis.

DR. MALLORY: We had one other case a little while ago that bears a slight similarity to this, a case in which the patient died of pulmonary embolus three days after operation. I think it is pretty obvious that a phlebitis existed at the time of operation. Three days is of course too short a period after operation to get pulmonary embolus as a result of secondary thrombosis following operation. Thrombosis must have occurred before operation. Probably a clot loosened during operation and then embolism occurred within a very short period after it. In that case there was no evidence that the phlebitis had been septic in character. This, of course, was a frank septic phlebitis.

DR. MCKITTRICK: Did this involve all the large vessels in the pelvis or merely those of the uterus?

DR. MALLORY: Merely those of the uterus. Practically none of the vessels left in the pelvis at the time of autopsy showed involvement. The process was quite sharply localized.

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THE TREATMENT OF EPILEPSY

THE newer methods of treating epileptics have now been under observation long enough to draw some conclusions in regard to their efficacy. One method, the use of the ketogenic diet, has been tried extensively in Boston at the Massachusetts General Hospital by Dr. Fritz B. Talbot and his colleagues. A summary of his work has recently been published*.

It has been known for a long time that ketosis, characterized by the presence of excess acetone and other acids in the blood, results from abnormal physiological and metabolic processes. The artificial production of this state by diet appears to be effective in the treatment of epilepsy and it is largely with the development of ketosis that Dr. Talbot's book has to deal. A similar condition can be induced by fasting, but this method of treatment has not proved to be of great value on account of the obvious difficulty of prolonging such a therapeutic procedure. The development of ketosis by diet, however, is more simple to maintain and the method is particularly valuable in the treatment of epilepsy in childhood.

The diet itself consists of food containing more molecules of fatty acid than of glucose; in short, a high-fat, low-carbohydrate diet. The degree of ketosis depends on the ratio of these two constituents and can, therefore, be controlled at will. The usual method of treatment is to establish this ratio (expressed in grams of food) at a rate of about 1½:1 for the first two or three weeks. After that the ratio may be increased at intervals of one week up to, if necessary, 4:1. Ketosis develops soon after the beginning of treatment and the urinary reaction for acetone appears when the ratio has reached 2:1 or 2½:1. Care must be taken to keep up the caloric needs of the body and carefully worked out tables of normal foods, of great use to anyone establishing such a diet, appear in Talbot's book. After the diet is well started, one may expect a diminution in the number and severity of the seizures and occasionally all attacks cease, sometimes with dramatic suddenness. In addition to stopping the epileptic seizures, one often notices a change in the personality of the patient, along with a general physical improvement.

The success or failure of this method of treatment depends largely on the mentality of the patient and the attitude of the patient's family. Success cannot be expected where there is marked mental degeneration and lack of coöperation of the family also precludes a good result. Talbot has found that patients who follow the diet carefully and maintain it for from four to six months often are gradually able to shift back to a normal diet and still be free from epileptic seizures. Occasionally relapses may be expected. The return to a normal diet should be gradual and in inverse ratio to the stepping-up of the diet at the beginning of treatment.

Talbot's book deals largely with the method. It contains no reports on even a small series of patients. Before any final estimation of the value of ketogenic diet treatment can be given, a statistical summary with conclusions is necessary. Until that time, however, as the method seems to be a safe one, there is no reason why it should not be applied by the general practitioner outside of a hospital.

*Talbot, Fritz B. Treatment of Epilepsy. New York: Macmillan Co., 1930, pp. xiii+308.

DO WE NEED FURTHER STUDY OF THE DEFECTIVE CLASSES?

THE individual disabilities and the burden on society incident to mental disease seem to present some of the greatest public health problems of this age.

The tremendous cost of caring for recognized insane persons is in itself a great burden. The mental defectives who swell the ranks of offenders against society and the unrecognized or uncontrolled border-line cases demand study and appropriate treatment. Society is under

obligation to restore mental health when possible and to protect itself from actual and impending dangers.

These responsibilities are being more fully recognized and met today than ever before, but much more must be done. Public Health activities are broadening and include preventive as well as therapeutic measures in dealing with the insane, but the possibilities for greater progress have been inadequately recognized by the public because the demonstration of abnormal behavior among children is ordinarily considered to be the personal responsibility of parents whereas such exhibitions may be due to definite fundamental defects. Too often perhaps the designation insanity is only applied to the person who is obviously the victim of a delusion or mental degeneration. With the mind as well as the body, disease may present obscure or conflicting symptoms which can only be detected by careful examination and interpreted by trained observers.

The popular health slogan today is health examination conducted regularly. It would be interesting to know how often the mental health of children is given consideration or how many general practitioners have any appreciable understanding of the basic principles of psychiatry.

We are today very much interested in correcting apparent physical lesions, preventing infections or interference with nutrition, but who except the expert makes a study of the heredity and environment of the child? The sterilization of the unfit potential parent has received some spectacular attention but that is an expedient which will comparatively rarely be employed.

Whether insanity is on the increase as is suggested by Dr. Haviland in his study of the population in and commitments to the New York hospitals for the insane or as is denied by some psychiatrists, its recognition may be more general and the problem stands as one of the major responsibilities of society for it is so important that every possible corrective measure should be brought to bear to promote the cure and prevention of mental disorders.

If we are content to expend the major effort on those unfortunates who have reached the well-developed stages or who have been convicted of crime, the real problem has not been solved. The solution will come more quickly through intelligent coöperation of the general practitioners and the psychiatrists with expenditure of sufficient money for the careful study of children.

The ten-year program of the state for the study of the physical condition of children is an excellent idea. The careful study of the mentality of children will bring dividends to the nation in greater efficiency, less crime, and fewer commitments to hospitals for the insane. The sane mind may dominate the body in a larger degree than the healthy body may control the mental state, for normal minds will have, on the average, sufficient intelligence to apply the known rules for the care of the body.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

WILINSKY, CHARLES F. M.D. Baltimore University School of Medicine 1904. Director of Beth Israel Hospital and Deputy Health Commissioner of the City of Boston in charge of Child Hygiene and the George Robert White Fund Health Units. His subject is: "Municipal Preventive Medicine. Boston's Program." Page 693. Address: Beth Israel Hospital, 330 Brookline Avenue, Boston.

TIMMINS, EDWARD F. M.D. Harvard University Medical School 1904. Supervising Physician, Boston School Department. His subject is: "The Influence of Boston's Health Program on the Practitioner." Page 698. Address: 527 Broadway, South Boston.

SHATTUCK, GEORGE C. A.B., A.M. (Honorary) M.D. Harvard University Medical School 1905. Chairman Executive Committee, Boston Health League. Assistant Professor of Tropical Medicine, Harvard Medical School. Junior Visiting Physician, Boston City Hospital in charge of Service for Tropical Diseases. His subject is: "The Boston Health League's Place in Boston's Health Program." Page 702. Address: 520 Commonwealth Avenue, Boston.

RACKEMANN, FRANCIS M. A.B., M.D. Harvard University Medical School 1912. Physician to Massachusetts General Hospital. Instructor in Medicine, Harvard Medical School. Address: 263 Beacon Street, Boston. Associated with him is:

SMITH, LYMAN B. A.B., M.A., Ph.D. Harvard 1930. Research Fellow in Botany, Harvard University. Address: Gray Herbarium, Harvard University, Cambridge, Mass. Their subjects are: "The Hay Fever Plants of Eastern Massachusetts", page 708, and "Ragweed Hay Fever: Symptoms and Pollen Concentration Compared (1930)", page 711.

CLARK, TALIAFERRO. A.B., M.D. University of Virginia 1890. Served in several grades of the United States Public Health Service. At present Assistant Surgeon General in charge of the Division of Venereal Diseases. His subject is: "Some Public Health Aspects of Gonorrhea." Page 713. Address: 16 7th Street, S.W., Washington, D. C.

CLOW, FRED E. M.D. Harvard University Medical School 1904. Medical Officer, Huggins Hospital, Wolfeboro, New Hampshire. His subject is: "Reduction of Dislocations of the Shoulder Joint." Page 718. Address: Wolfeboro, New Hampshire.

HODGSON, JOHN S. Ph.B., M.D. Harvard University Medical School 1915. F.A.C.S. Assistant Visiting Surgeon, Massachusetts General Hospital. Consulting Surgeon, Massachusetts Eye and Ear Infirmary. His subject is: "Craniocerebral Injuries." Page 720. Address: 144 Commonwealth Avenue, Boston.

The Massachusetts Medical Society

THE SKELETON TENTATIVE PROGRAM OF THE ANNUAL MEETING

Monday, June 8

A. M.: Massachusetts General Hospital Clinic; Registration, Commercial Exhibits, Moving Pictures, Hotel Statler.

P. M.: Lawn Fête at Larz Anderson Estate, Brookline.

Evening: Shattuck Lecture, Art Museum; Reception, Art Museum.

Tuesday, June 9

A. M.: Section on Medicine; Section on Radiology and Physiotherapy.

Noon: Censors' Meeting; Council Meeting; Cotting Lunch.

P. M.: Section on Obstetrics and Gynecology; Section on Tuberculosis.

Evening: Annual Dinner.

Wednesday, June 10

A. M.: Section on Surgery; Section on Pediatrics.

Noon: Annual Meeting; Annual Oration; Luncheon.

A more complete program will be published later.

THE BOSTON MEDICAL LIBRARY

JOHANN MULLER

1801-1858

THE 19th century was distinguished in Germany by an activity in medical progress, particularly along scientific lines, that won for the German mind a preëminence from which it has not at this time been dislodged. A remarkable group of investigators and teachers they were, composed of such names as Brücke, Rudolphi, Virchow, Helmholz, Du Bois Reymond, Schwann, Leiberkuhn, Max Schultze, Häeckel, Wagener, Lachmann, Reicherts and many others. Most of these would undoubtedly have acknowledged that the inspiration of their researches could be traced to the stimulating contacts which they experienced in association with Johann Müller. It is not too much to say that the enthusiasm for scientific investigation in the basic medical sciences in Germany was attributable to the influence of Müller.

Johann Müller was born in Coblenz on the 14th of July 1801. His father was a shoemaker by trade and seems to have made every effort that his humble station and moderate means would permit, to give his son educational advantages. Johann was the oldest of a family of five, two of whom were girls. After his father's death, which occurred when Johann was quite young, he was placed in a position to realize, perhaps, what could be accomplished by a person possessed of tireless energy and an indefatigable inclination to work, for this was the outstanding characteristic of his mother, upon whom thereafter devolved the responsibility of bringing up the family. As has been so often the case she was equal to the task, for many a man who has fought his way to distinction in this world can trace his success to the example and precept of a mother who spared nothing she could give to fit him for the course he chose to follow. Frau Müller carried on the business, which appears to have been fairly profitable, largely because that section of the Rhineland in which they lived was overrun with soldiery and they had to have shoes. How much he was influenced by Joseph Görres, a leader of catholic thought in Germany, who happened to be the head of a secondary school in Coblenz at the time Müller became nine years of age, is not known, but during the four succeeding years (1810-1814), during which time Görres was head of the school, Müller was busy making collections of natural objects which were the foundations of his interest in natural history and the physical sciences.

Coming from a devout Catholic family a good deal of his early schooling was in Jesuit schools where he received a thorough grounding in Greek and Latin and it was said that he wrote the latter better than he did German and he found recreation in making his own translations of Plato and Aristotle. He developed an interest in mathematics and later in life he expressed himself as owing an especial debt of gratitude to Professor Leutzinger who aroused in him his interest in this subject. Intense as was his satisfaction in collecting natural history objects he had a strong aversion to all insects, particularly spiders and was one of the few naturalists, whose tastes centered about the biological sciences, to whom vivisection was obnoxious. He had a distrust of the value to man of observations made upon animals, even under conditions which were painless, and therefore questioned whether it was justifiable to interfere with their enjoyment of life. Though he early manifested an absorbing interest in natural science he did not neglect the humanities and was an attendant upon the lectures of celebrated professors of rhetoric and poetry, on the German language and literature and upon Shakespeare and Dante. Brücke, in commenting on Müller's character and accomplishments, seems to favor the idea that the really worth-while contributions to science have not come so much from those steeped in Science alone, as from those whose intellectual foundations have been laid deeper and wider.

This thought has been repeatedly confirmed by others; most recently, in a way, in a discussion before the Association of American Medical Colleges, where the subject of the cultural features of premedical and strictly medical studies was being considered.

It had been the hope of the family, and Müller's own desire for many years, that he should become a priest and it was not until he had actually entered upon his University training at Bonn, when he was 18, that he finally gave up the thought of the priesthood. He was probably influenced somewhat in reaching this decision by the fact that when he was about 16 he came under the spell of Goethe's scientific writings. From almost the outset of his medical studies at Bonn he became a marked man. It was in his second year there that he won a prize for an investigation upon respiration in the foetus. Virchow, commenting on it later, said it was a piece of work remarkable for the extent of the knowledge which it revealed and for the ingenuity of the experiments carried out. When the Prussian government took over the control of the Rhenish Universities and Berlin became the center of medical activities, Müller yielded to the urge to try his fortunes in that city. He secured the opportunity to carry on his investigation under Rudolphi, the physiologist, who promptly recognized his abilities and favored him in every way he could. Rudolphi gave him, in recognition of his work, an English microscope which it would have been beyond Müller's private means to have purchased at that time. He made friends during this stay in Berlin with Meckel who was editor of the Archives for Physiology and, upon his death, took over the editorship of that Journal. The necessity for securing a settled income led to his return to Bonn where he became a Privat-Docent and he managed to eke out a modest living on what he could pick up in practice and teaching supplemented by a trifling allowance from his mother. The tragic death from peritonitis of a friend, who was under his care, convinced Müller that he did not care for the practice of medicine and he gave it up entirely, when he was about 26, and married Anna Zeiler, daughter of a landowner in the vicinity of Bonn.

In a poem, which he dedicated to her, he promised her an immortal name in lieu of any more material dowry and broke down his health completely, so strenuously did he address himself to the fulfillment of the promise he had made her. The breakdown was of a nervous nature from which it took him some time to recover. With restored health he devoted the next 10 years to physiological investigations. These were concerned with the nature of reflex action, the origin of fibrin and certain other components of the blood, the composition of chondrin, a gelatinous substance occurring in the composition of cartilage, the structure and anatomy of the glands and perhaps most important of all a description of the function and structure of the embryonic duct of Müller, a part of the genito-urinary construction of the foetus. This was all done before he was 32 years of age.

In 1832 Rudolphi, the Professor of Physiology at Berlin, died. Amid a great number of candidates who desired to fill this position Müller's qualifications were considered the most promising, as he himself pointed out to the Minister, and he was selected. Shortly after his appointment he published his Handbook of Physiology which established his reputation. Virchow said of Müller's work that "he did not discover, but he firmly established the exact method of investigating natural sciences—and the school which he created knew no community of doctrine, but only of facts and still more of methods". In addition to his studies in embryology, anatomy and physiology in the human, he interested himself, after 1840, in the invertebrates and fossils. He worked for a time with Agassiz in paleontology. He had contemplated a thorough study of pathology but what he really did in this line was a side issue, though he stimulated the work of many. It was to him that Virchow owed his start upon the classification of tumors. Müller was the first to indicate the harmony existing between the pathological and embryological development of tumors and it was to his insistence upon the use of the microscope in the study of morbid growths that modern advances in knowledge have been made.

In addition to the material contributions to medical science to which allusion has thus been briefly made, it may be justly affirmed that it was to Müller as a *teacher* that the scientific world owes its greatest debt. Though to the average student he was not particularly acceptable, to the exceptional one he was especially inspiring and it was through the considerable number of men belonging to this "exceptional" group, who were drawn to his lecture hall as by a magnet, that his influence as a scientist was extended. Arteriosclerosis was the penalty exacted of Müller for the intensive effort he put forth through the 57 years of his life. It was apparently an apoplectic seizure that terminated his career, for he was found dead in his bed to which he had retired apparently in his usual health.

MASSACHUSETTS LEGISLATIVE NOTES

SENATE—NO. 420

THE COMMONWEALTH OF MASSACHUSETTS

In the Year One Thousand Nine Hundred and Thirty-One

Resolve providing for a Study and Investigation by a Special Commission relative to the Laws of the Commonwealth relating to the Inspection of Dairy

Farms producing Milk and Cream consumed in Massachusetts.

Resolved, That a special unpaid commission is hereby established, to consist of five members to be appointed by the governor, two of whom shall be milk producers and two shall be milk inspectors. Said commission shall study and investigate the enforcement and adequacy of laws relating to the inspection of dairy farms producing milk and cream for distribution in Massachusetts. Said commission shall report to the general court its findings and conclusions hereunder, and its recommendations, if any, together with drafts of legislation necessary to carry said recommendations into effect, by filing the same with the clerk of the house of representatives on or before the first Wednesday of December in the current year.

SENATE—NO. 434

Resolve providing for an investigation by a special commission relative to the laws of the Commonwealth pertaining to the inspection of dairy farms producing milk and cream for distribution in the Commonwealth. Based on Senate 420. (Agriculture.) To Rules, acting concurrently, March 26.

MISCELLANY

DR. RICHARD CABOT'S OPINIONS WITH RESPECT TO ALCOHOL AS A MEDICINE*

Alcohol is always a narcotic, never a stimulant and therefore has none of the uses ordinarily attributed to it, such as supporting the heart or bringing people out of fainting fits. The supposed value of alcohol in medicine has been exploded, long ago. In our best hospitals — such as the Massachusetts General—it is almost obsolete.

It produces in a certain percentage of those who take it a fatal disease of the liver—cirrhosis.

Alcoholic insanity . . . is increased by alcohol.

Infectious diseases—such as pneumonia—have a mortality of 30 to 40 per cent. in those who do not take alcohol and 70 to 90 per cent. in those who do. The body's resistance to other infectious diseases is likewise diminished by the taking of alcohol.

*Excerpts from an address at the Lynn Conference, March 12, 1931.

FLEAS MAY TRANSMIT ENDEMIC TYPHUS FEVER IN THE UNITED STATES

The Old World type of typhus fever has been known for many years. Its transmission has been shown to be due to the body louse. In making studies of cases of a milder type of this disease found in the United States, it was impossible to incriminate the body louse in many instances.

It has been believed for some time that there was some other agent which transmitted this disease, which is of more than passing interest, as studies by the Public Health Service have indicated the occurrence of a number of cases of endemic typhus fever in several areas of the United States. A report recently made public by the Public Health Service shows that there is strong evidence to indicate that fleas may be the means of transmission of this disease from person to person or from a possible rodent reservoir to human beings. This discovery is of much importance and may be of value in the prevention of the spread of this disease.

A DISEASE OF THE ROCKY MOUNTAIN SPOTTED FEVER TYPE IDENTIFIED IN EASTERN AND SOUTHEASTERN SECTIONS OF THE UNITED STATES

According to a report recently made public by the United States Public Health Service, a disease of the Rocky Mountain spotted fever type has been identified as occurring in States in the eastern and southeastern sections of the United States. Heretofore, it has been thought that Rocky Mountain spotted fever existed only in the western part of the United States being most prevalent in the Rocky Mountain section.

The discovery that a disease of this type is present in the eastern part of the United States is important to the general public, as well as to health authorities. Rocky Mountain spotted fever is spread by the bite of ticks, and the present evidence indicates that the type of disease just reported for the eastern States is also spread by ticks. This disease is rather severe and death has resulted in some of the cases. The disease occurring in the Rocky Mountain section is often extremely severe, with mortality running from 60 to 90 per cent.

The discovery of this disease in a section hitherto unknown is the result of laborious and extended studies by the Public Health Service, including laboratory investigations as well as studies of a number of clinical cases.—*United States Public Health Service.*

MASSACHUSETTS SCHOOL TUBERCULOSIS PROGRAM

During the past six years 3,000 school children in Massachusetts were found by x-ray examination to be suffering from tuberculosis in some degree, and 6,500 more were in need of supervision as suspected cases. These children were among the 150,000 referred for examination to the clinics conducted by the Massachusetts Department of Health in connection with its ten-year program inaugurated six years ago for the discovery and prevention of tuberculosis in the schools. These findings indicate the value of the work.—*U. S. Children's Bureau, Washington, D. C.*

GRADUATE COURSES FOR RURAL PHYSICIANS

Instruction in pediatrics and obstetrics occupies two months of the four-month course given by the Harvard University Medical School for physicians practicing medicine in country districts. The study of general medicine occupies the other two months. A grant of the Commonwealth Fund has made this course possible and is sufficient to cover the expenses for tuition and travel and a monthly stipend of $250 for five physicians from each of the two units of the fund's new Massachusetts health demonstration and for five physicians from the State at large.—*U. S. Children's Bureau, Washington, D. C.*

TUBERCULOSIS ABSTRACTS

ISSUED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Adolescence is a period of strain. Youngsters who have, during the earlier years of childhood, been massively infected with tubercle bacilli are likely during the "teen" age period to develop the adult type of tuberculosis. It is during high school years that the destiny of many of these children is decided. This is reflected in the steep rise in the death rate curve during the late "teens" and early twenties. Walter L. Rathbun has, since 1923, made a systematic search for early tuberculosis, regardless of symptoms, by means of the tuberculin test and the x-ray. He has recently completed the task of examining practically every high school pupil in Chautauqua County, New York; namely, 7171 children. His experiences are recorded in a special publication, from which these abstracts are derived.

TUBERCULOSIS AMONG HIGH SCHOOL STUDENTS

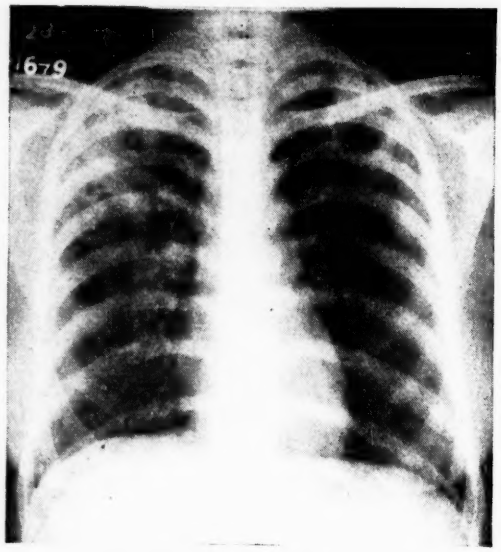
Examinations of school children for early tuberculosis began in Chautauqua County, New York, in 1923 by sending to local clinic centers (a) pupils physically below par, (b) those who had symptoms referable to tuberculosis and (c) those who had been exposed to the disease. The results of the first year's efforts were enlightening, but since facilities were limited, it was decided the next year to examine only the high school groups because these children leave school first. Each high school student was given a chest examination without reference to family history, height-weight ratio, or symptoms. The results justified the procedure as many cases of tuberculosis were found among those in whom it was least suspected and who were apparently perfectly healthy.

Of the students so examined, three groups were then x-rayed: (a) those with suggestive signs of pulmonary tuberculosis; (b) those in actual contact with a case of tuberculosis; (c) those with a history of previous or present symptoms referable to tuberculosis. All such children were transported to Newton Memorial Hospital, where they were x-rayed. This procedure continued during 1924 and 1925, when the plan was broadened by carrying the diagnostic work directly into the schools.

EXAMINATIONS MADE IN SCHOOLS

The Chautauqua County Tuberculosis Association furnished funds to purchase a portable apparatus and x-ray films which made it possible to do the work in the school buildings. Incidentally, while it is true that the portable x-ray machine has its shortcomings, it is capable when properly handled of revealing lesions of the childhood and the adult type. The few cases in which more detail is needed may be x-rayed with a high-powered machine. The utility of the portable apparatus is a distinct advantage, and having the examinations made in the school arouses interest among school people. Stereoscopic sets of pictures were made routinely.

In 1926, the mode of procedure was again modified. Students were taken from the study halls and x-rayed, and only those with definite or suspicious signs were given a physical examination. This speeded up the work and also increased the percentage of positive cases. The tuberculin test



Mottling in right upper and upper part of lower lobe, cavities in right upper, scattered mottling throughout upper two-thirds of left upper lobe with cavity near apex. Calcified lymph node above sternal end of left third rib, indicating presence of childhood type lesion.

Girl, 15 years old, very active in scholastic, social, and athletic affairs. Denied symptoms until questioned closely. Diagnosis made during routine school x-ray examination.

was not insisted upon as a routine measure at that time because public opinion was not favorable to its use, whereas x-ray examinations were heartily approved.

In 1927, the intracutaneous tuberculin test was introduced as the first procedure in diagnosis. A specially trained nurse made the test and read the reaction, thus saving valuable time of the physician. It was necessary to secure the consent of parents to make the test; hence, the percentage tested was reduced to about 50 per cent. Positive reactors only were x-rayed.

INTIMATE CONTACT IMPORTANT FACTOR

These studies indicated that tuberculous disease of the lungs and tracheobronchial lymph nodes resulted from prolonged and intimate, rather than casual, exposure to tubercle baciili. Intimate exposure most commonly takes place in the home. It was found that the percentage of positive reactors was greater among children living in the city of Jamestown (44%) than among similar groups in the villages (25%) but that the incidence of tuberculous disease of the childhood type was about the same in rural and urban areas. Apparently, while casual contact (which is more common in cities) may be the starting point of an infection as revealed by the tuberculin test, it is incapable of causing demonstrable disease in most cases. Intimate contact with a sputum positive case of pulmonary tuber-

culosis is the usual cause of the disease. In 54 per cent. of the families of tuberculous children, a parent had either died of the disease or had pulmonary tuberculosis at the time. In 17 per cent. of the families, there was a parent with suspicious signs of tuberculosis. In some cases, the "spreaders" were older siblings, in one, a nurse-maid, and in another, a boarder.

RESULTS OF STUDY

During the past seven years, 30,000 pupils, 7171 of whom were of high school age, have been examined, with the following results:

	Number	Per Cent.
Negative to tuberculin test	570	7.9
Negative on x-ray	5676	79.2
Children requiring observation	538	7.5
Childhood type tuberculosis	250	3.5
Suspect adult type tuberculosis	50	.7
Adult type tuberculosis	60	.84
Miscellaneous	27	.36
	7171	100.

Cases of childhood tuberculosis were 15 per cent. higher for females than for males, while the morbidity for the adult type was 43 per cent. higher among females than among males.

Many of the arrested cases continued school work but were given eight weeks' treatment in a high school health camp located on the grounds of the hospital. During the past two years, a high school has been conducted for students under treatment in the hospital. Local school authorities are well satisfied with the experiment. For ambulatory cases and some bed cases, school work is the most profitable kind of occupational therapy.

PROTECTING THE STUDENT'S HEALTH

The tendency in modern schools is to push the students to the limit of their capacities. Healthy children can stand the pace, but not those who are below par physically. Therefore, those with physical disabilities, real or potential; must be searched for and protected from overwork. Similarly, sports and competitive athletics must be curtailed for the physically handicapped. Rough handling and excitement are heavy drains on the body reserve and frequently precipitate a breakdown. School authorities in Chautauqua County coöperated admirably in protecting those who needed protection.

The public schools are logical centers for the dissemination of medical knowledge about tuberculosis, just as they serve as convenient units for discovering cases. Every student should be examined before graduating and certainly before working papers are granted.

Of course, no child with positive sputum should be allowed to attend school lest he infect his fellows.

"Every available resource that can be spared should be devoted to the public school field, for in the control of tuberculosis our hope of success in the years to come rests largely upon the care of the youths of today."—*Health in High Schools, Walter L. Rathbun, Natl. Tuberc. Assn.*

FELLOWSHIPS CONFERRED ON NEW ENGLAND PHYSICIANS

Among the three hundred and sixty-seven physicians upon whom Fellowship in the American College of Physicians was conferred at the Annual Meeting in Baltimore, March 25, 1931, the following named New England doctors are included:

Byron Fuller Barker, Bath, Maine
Charles Joseph Bartlett, New Haven, Connecticut
Harold Vincent Bickmore, Portland, Maine
Francis Gilman Blake, New Haven, Connecticut
Howard Boyd, South Manchester, Connecticut
Hugh Baird Campbell, Norwich, Connecticut
William Bosworth Cash Calen, Boston, Mass.
Kallman Meyer Davidson, Boston, Mass.
Arthur Bliss Dayton, New Haven, Connecticut
Theodore Schlosser Evans, New Haven, Connecticut
Augustus Roi Felty, Hartford, Connecticut
Claude Ellis Forkner, Belmont, Mass.
Paul Kendrick French, Burlington, Vermont
Isaac Gerber, Providence, Rhode Island
Cole Blease Gibson, Meriden, Connecticut
John Ralph Hamel, Portland, Maine
Chester Scott Keefer, Boston, Mass.
James Elder Hutchison, Hartford, Connecticut
Donald Storrs King, Boston, Mass.
Isaac William Kingsbury, Hartford, Connecticut
Edward James Lynch, Shelton, Connecticut
Dwight O'Hara, Waltham, Mass.
Herman Charles Petterson, Boston, Mass.
Ralph Augustus Richardson, Bristol, Connecticut
John Carter Rowley, Hartford, Connecticut
George Gardiner Russell, Hartford, Connecticut
Charles Bradford Sylvester, Portland, Maine
Helmuth Ulrich, Boston, Mass.
Fresenius Van Nüys, Weston, Mass.
John Alexander Wentworth, Hartford, Connecticut
Priscilla White, Boston, Mass.
Otto George Wiedman, Hartford, Connecticut.

GREAT BRITAIN'S SCHOOL HEALTH

Improvement of the physical condition of children between infancy and school life is urged as necessary to satisfactory handling of school medical problems in the latest Annual Report of the Chief Medical Officer of the Board of Education for England and Wales. This conclusion is based on medical examination of 2,700,000 school children. Minor ailments, which comprised the main school diseases, are now receiving more attention than formerly, so that the average severity in certain types of defect is considerably less, even though the percentages of children having them show little change from year to year. Except for organic disease, most of the sickness among school children was due to neglect of personal hygiene.—*U. S. Children's Bureau, Washington, D. C.*

RÉSUMÉ OF COMMUNICABLE DISEASES IN MASSACHUSETTS

FEBRUARY 1931

The total number of cases of communicable diseases reported in February of 1931 is 9,515, which is about the figure reported for the same time last year, and is not abnormally high or low.

Four cases of anterior poliomyelitis were reported, which is about the average for the month.

Only 208 cases of diphtheria were reported, which is a record low point for February for the 25 years in which diphtheria has been accurately reported. This is the fourth successive month of unusually low prevalence of the disease.

German measles, mumps and chicken-pox all show about their normal seasonal prevalence.

Measles with 2,196 cases seems to be somewhat high for the month, but is lower than the figure of the preceding month.

Scarlet fever was reported in 1,510 instances, which is a little above the number reported for January, and is considerably above the average figure for February.

Whooping cough with 583 reported cases is less than the usual number for February and more than 200 less than the number reported in January.

Twelve cases of epidemic cerebrospinal meningitis are recorded, a slight increase over the January figure, but not an unusual figure for the month.

Only twelve cases of typhoid fever were reported, not quite a record low number for February, but, nevertheless, reflecting a consistent downward trend in the prevalence of the disease during that month.

Lobar pneumonia was reported in about the expected number, 753 cases being reported; a somewhat higher figure than the January one of this year.

Influenza was reported in 543 instances, a slight increase over the 458 reported in January, and a definite increase over the 1930 figures, but still an almost insignificant figure as compared with the true epidemic years of the past.

The figures for pulmonary and other forms of tuberculosis are the usual ones for the season.

Syphilis and gonorrhea show 318 reported cases and 483, respectively, representing slight decreases over the January figure.

RARE DISEASES

Anthrax was reported from Lynn, 2; Peabody, 2; total, 4.

Anterior Poliomyelitis was reported from Boston, 3; Greenfield, 1; total, 4.

Dysentery was reported from Winchester, 1.

Encephalitis lethargica was reported from Haverhill, 1; Quincy, 1; total, 2.

Epidemic cerebrospinal meningitis was reported from Boston, 5; Chelsea, 1; Everett, 1; Fitchburg, 1; Holyoke, 1; Lynn, 1; Southwick, 1; Springfield, 1; total, 12.

Malaria was reported from Belmont, 1.

Septic sore throat was reported from Beverly, 1; Boston, 3; Framingham, 1; Holyoke, 1; Medford, 1; Newton, 1; Northampton, 1; Worcester, 2; total, 11.

Trachoma was reported from Boston, 4; Cambridge, 1; Chelsea, 1; total, 6.

Trichinosis was reported from Belmont, 1.

MONTHLY REPORT OF CERTAIN COMMUNICABLE DISEASES

	Cases in Entire Pop.				Case Rates per 100,000 Pop.		
	Feb. 1931	Feb. 1930	Proso. Index*	Epi. Index†	Feb. 1931	Feb. 1930	Expected Rates‡
All Causes	9515	9618	—	—	222.5	226.0	—
Ant. Polio.	4	2	7	.6	.1	.04	.2
Diphtheria	208	362	338	.6	4.9	8.5	7.9
Ep. C. S. Men.	12	17	12	1.0	.3	.4	.3
Measles	2196	2008	3217	.7	51.4	47.2	75.2
Pneu. Lobar	753	666	651	1.1	17.6	15.6	15.2
Scarlet Fever	1510	1179	1178	1.3	35.3	27.7	27.5
Tuberculosis Pul.	423	405	325	1.3	9.9	9.5	7.6
Ty. Fever	12	14	10	1.2	.3	.3	.2
Whooping Cough	583	1337	1281	.5	13.6	31.4	29.9
Chicken-pox	1296	1024	—	—	30.3	24.1	—
German Measles	226	234	—	—	5.3	5.5	—
Gonorrhea	483	499	—	—	11.3	11.7	—
Influenza	534	30	—	—	12.5	.7	—
Mumps	525	876	—	—	12.3	20.6	—
Syphilis	318	380	—	—	7.4	8.9	—
Tuberculosis O. Forms	34	51	—	—	.8	1.2	—

*This index is an attempt to estimate the number of cases based on the trend during the past years which can be expected to occur, and is for the purpose of comparison with the number of cases which actually did occur.

†This ratio expresses how prevalent the disease is compared with the index mentioned above: 1.0 indicates that the actual number of cases equals the expected number. A larger number means a greater prevalence, and a small number a lesser prevalence than expected. Thus, 2.0 would indicate twice the expected number of cases, and .5 half the expected number of cases. The method used to determine the indices is described in the August 18, 1927 issue of the *Boston Medical and Surgical Journal*.

‡Calculated from the Prosodemic Index.

CORRESPONDENCE

WHAT CAN BE DONE ABOUT THE HARRISON NARCOTIC LAW?

March 23, 1931.

Editor, the *New England Journal of Medicine:*

I was very much struck with an editorial entitled "Warning to Physicians" which appeared in the *New England Journal of Medicine* for December 25, 1930. This editorial expresses very well indeed the indignation which I am sure every physician feels under the regulations of the Harrison Narcotic Law.

I feel very strongly that a definite propaganda should be started and I am taking the liberty of writing to ask if you know of any such move having been inaugurated. I assume the most effective way is through the American Medical Association.

Thanking you for any information which you can give me, I am

Very sincerely yours,

EDWIN A. LOCKE, M.D

EDITORIAL NOTE:

We do not know of any movement designed to correct the abuses possible under the Harrison Narcotic Law.

If State Societies would instruct the representatives of the House of Delegates of the A. M. A. to bring this matter up for discussion some action might be brought about.

CORRESPONDENCE SUBMITTED BY DR. SAMUEL B. WOODWARD

WORCESTER'S SENATORS

Dr. Woodward Puzzled at Their Failure to Support His Bill

To the Editor of the Telegram:

So many people still ask me why my vaccination bill was so violently rejected by the Senate this year that I wish to say that when one goes before a legislative body with no home support, one is handicapped from the start.

One of our senators was "too busy to attend to that bill".

The other from whom nobody in the past had been able to extract an opinion on the desirability of such legislation told me on the fatal Tuesday that I had his vote this year, following that remark by the statement that he was a candidate for mayor of Worcester.

From my perch in the gallery, for this year for the first time I was not accorded the privilege of a seat on the floor, I neither saw nor heard any move on his part to cast that vote and as the record stood 25-0 it would seem as if I had misunderstood what he said to me. A letter asking for an explanation remains unanswered.

The general feeling in the Senate may perhaps be expressed by these lines by an unknown author—

"Why do doctors raise a clatter?
Ills we know are always with us,
Morbid talk already ample
Only causes trepidation.
Let us then ignore the matter,
Let us chat of simple pleasures,
Something cheerful, for example
Long live anti-vaccination."

SAMUEL B. WOODWARD.

Worcester, March 23.

—*Worcester Telegram.*

Senator George H. Nelson of Worcester has a reply in a later paper in which he states "that 17 Senators did the same thing" further that he acknowledged that he told Dr. Woodward that he would vote for the bill but finding strong opposition he felt that nothing would be gained by taking the floor and further that he made repeated efforts to see Dr. Woodward.

Dr. Woodward's further reply follows:

When one writes a letter of inquiry and no answer comes to hand after two weeks have passed, is it not a fair assumption that no reply will be forthcoming? Surely Senator Nelson does not expect me to call at his shoe store for a response.

No, I did not discuss Senator Nelson's candidacy for Mayor with him, mentally resenting the idea conveyed that I should support that candidacy in return for his vote in the Senate.

No officer expelling me from the Senate lobby was deterred by the Senator's interference. I was courteously asked by a uniformed attendant if I was registered and the man was waved aside by Senator Christian Nelson, who was also present.

I am not unfamiliar with customs and practices at the State House, having been a Trustee of one of our State Hospitals for fourteen years and, as some people perhaps know, interested in vaccination for a long time. Incidentally, that bill has not been "rejected by seventeen Senates," for with one exception it never reached that body until 1926 and the Senate meets but once a year.

May I take this opportunity to also emphatically deny what is so often said that the Catholic Church is the religious body which opposes the endeavor to include children attending private and parochial schools under our present vaccination laws. On the contrary, it supports and always has supported my efforts in that direction.

SAMUEL B. WOODWARD.

THE TREATMENT FOR THE PREVENTION OR MODIFICATION OF MEASLES

The Commonwealth of Massachusetts
Department of Public Health
State House, Boston

March 25, 1931.

The following circular letter has been sent to physicians in Massachusetts:

Measles has killed more children during the past five years than have automobiles. Among children below three years of age, it is a very serious disease. While our methods of controlling its spread are unsatisfactory because of the almost universal susceptibility to the disease, much can be done by physicians to prevent deaths.

Under recent date, we called to your attention the possibility of preventing or modifying measles by the use of adult whole blood. This method, when properly practiced, frequently confers upon a child a complete temporary immunity or may so modify the disease that a mild attack with fewer complications follows.

In order to facilitate the use of this method by physicians, we will supply through the Antitoxin and Vaccine Laboratory sterile sodium citrate solution free of charge.

The details of drawing the blood and of making the injections are fully described in the enclosed sheet of directions accompanying every vial of citrate solution.

It is the hope of the Department that through the widespread use of this procedure and through prompt and proper care of all cases, the deaths from measles may be materially reduced.

Yours truly,
GEORGE H. BIGELOW, M.D.,
Commissioner of Public Health.

ARTICLES ACCEPTED BY THE AMERICAN MEDICAL ASSOCIATION COUNCIL ON PHARMACY AND CHEMISTRY

535 North Dearborn Street, Chicago, Ill.
March 28, 1931.

Editor, The *New England Journal of Medicine*,

In addition to the articles enumerated in our letter of February 28 the following have been accepted:

Ciba Company, Inc.
Nupercaine—Ciba
Ampules Buffered Solution of Nupercaine—Ciba 2 cc., 1:200
Ampules Solution of Nupercaine—Ciba 5 cc., 1:1,000
Solution of Nupercaine—Ciba, 2%
Tablets of Nupercaine—Ciba, 50 mg.

Lederle Laboratories, Inc.
Refined and Concentrated Antipneumococcic Serum, Type I—Lederle

Mead Johnson & Co.
Mead's Powdered Brewer's Yeast

Schieffelin & Co.
Schieffelin Psyllium Seed

Swan-Myers Company
Mixed Grass Pollen Extract—Swan-Myers
Russian Thistle Pollen Extract—Swan-Myers

Yours truly,
W. A. PUCKNER, *Secretary*,
Council on Pharmacy and Chemistry.

RECENT DEATHS

CUSHMAN—DR. GEORGE THOMAS CUSHMAN, long a practitioner of Roxbury, died there March 28, 1931, following a cerebral hemorrhage of a year ago.

The son of Arved and Betsy Sawtell Cushman he was born in Boston, August 31, 1858, and was educated in the public schools and Harvard Medical School where he received his M.D. in 1881. He practised in Boston proper and in Dorchester before settling in Roxbury in 1894.

He was a Fellow of the Massachusetts Medical Society and was a member of Joseph Warren Commandery and past master of Zetland Lodge of Masons.

Dr. Cushman is survived by his widow, who was Miss Sylvia Ramsdell of Quincy and by two sons and two daughters.

HILL—DR. GEORGE SUMNER HILL, 63 years old, of Boston and Marblehead died at the latter town, March 27, 1931.

He was born in Boston, November 26, 1867, was a graduate of the English high school in 1886 and of Harvard Medical School in 1899. After serving as house officer at the Massachusetts General Hospital he began practice in Brookline, later moving to Somerville and to Marblehead, becoming an assistant there to the late Dr. Herbert J. Hall when he opened his Devereux Mansion sanatorium. In succeeding years he practiced both in Marblehead and in Boston.

Dr. Hill was a Fellow of the Massachusetts Medical Society and of the American Medical Association, a member of the Boston Tuberculosis Association, the Atlantic lodge of Odd Fellows and the Philanthropic lodge of Masons, as well as of the University Club. His attention to the many wants of his patients endeared him to a large circle.

POPE—DR. CAROLINE AUGUSTA POPE, a pioneer woman physician of Boston, died at her home in that city, March 28, 1931, aged 85. She and her twin sister, Dr. Emily Francis Pope, who died last August, were closely identified with the New England Hospital for Women and Children in Roxbury. They both joined the Massachusetts Medical Society in 1886 and Dr. C. Augusta Pope resigned in 1914.

NEWS ITEM

FORMER MEDICAL CENTER PHYSICIAN TAKES CHARGE OF PSYCHIATRIC WORK IN HARTFORD—On April 1 Dr. C. Charles Burlingame will assume his duties as Physician-in-Charge of the Hartford Retreat, with residence in West Hartford, Connecticut.

NOTICES

REMOVAL

Dr. J. Zonis announces the removal of his office from 939 Blue Hill Avenue to 280 Seaver Street, Dorchester.

PHYSICIAN QUALIFIED IN TUBERCULOSIS NEEDED

The United States Civil Service Commission has announced that a vacancy exists in the position of physician qualified in tuberculosis in the Regional Office of the United States Veterans' Administration at Dallas, Texas.

A man is desired for the appointment. The en-

trance salary is $3,800 a year. Higher-salaried positions are filled through promotion.

Full information may be obtained from the Secretary, Board of United States Civil Service Examiners, post office or customhouse, any city, or from the United States Civil Service Commission, Washington, D. C.

CORRECTION

Under the heading "Domiciliary Medical Service in Boston" a table was published in our issue of March 19, page 628. This table listed the agencies giving free service, districts served, cases eligible and method of referring cases.

The first agency listed was the Boston Dispensary, North End being one of the districts served. *North* End should have read *West* End.

MEDICAL CLINIC AT THE PETER BENT BRIGHAM HOSPITAL

At 3:30 P. M. on Thursday, April 9, in the Amphitheatre of the Peter Bent Brigham Hospital, a medical clinic on the Clinical Application of Roentgenology of the Aorta will be given by Dr. John Sproull, Haverhill, Massachusetts, to which physicians are cordially invited. These clinics will be held regularly on Thursday afternoons.

REPORTS AND NOTICES OF MEETINGS

THE NORFOLK DISTRICT MEDICAL SOCIETY

An interesting Symposium on Difficult Labor was presented to the Norfolk District Medical Society on the evening of February 24, 1931, at the Boston Lying-in Hospital.

Dr. Saul Berman spoke on the use of opiates, including morphine, pantopon, scopolamine, rectal ether, sodium amytal and avertin.

Dr. J. A. Smith discussed the use of uterine stimulants comparing pituitrin, thymophysin, castor oil and quinine and the Voorhees bag.

Dr. D. J. Bristol discussed forceps and version and Dr. T. R. Goethals took up the present attitude towards breech presentation.

Turning from the subject of inertia to that of dystocia, Dr. F. S. Newell discussed elective Caesarean section while Dr. M. V. Kappius talked on the test of labor in borderline cases.

A brief discussion followed.

THE HARVARD MEDICAL SOCIETY

A regular meeting of the Harvard Medical Society was held at the Peter Bent Brigham Hospital on Tuesday evening, March 10, at 8:15 o'clock. Dr. Joseph C. Aub presided.

The surgical service presented a twenty-two year old Jewish boy who on admission complained of pain and a sensation of fullness in the left upper quadrant. The personal and family histories were irrelevant. He was seen in the outdoor department and a renal tumor was suspected. However, pyelograms were negative.

General physical examination showed an undersized, thin listless individual with no palpable glands. Abdominal examination showed a mass extending from the midline to within two centimeters of the left iliac crest with an irregular surface which moved synchronously with respiration. The red cell count was 4,200,000, the hemoglobin 60 per cent. and the white count was 11,000. The smear showed 70 per cent. polymorphonuclear, 20 per cent. lymphocytes, 3 per cent. mononuclears, and 3 per cent. eosinophiles. Ten per cent. of the polymorphonuclear cells were early forms. The platelets were normal. Other laboratory data were normal.

After one week on liver diet with no change, an exploratory laparotomy was done. The spleen was found to be moderately enlarged and attached to its lower pole was a globular tumor, the size of a grapefruit, which was covered with omentum. The entire mass was removed. A final pathological report was not available but it was felt that this mass represented some form of hemangioma.

The medical service presented a 63-year-old tailor who entered because of a painful swelling in the left chest of four months' duration. At three years of age the patient had cervical adenitis. Twenty-three years ago he was treated for 6 months in a sanatorium where a positive diagnosis of pulmonary tuberculosis was made. He was discharged as an arrested case but a productive cough had persisted to the present time. The above swelling has been accompanied by an increase in severity of the cough and the raising of some blood.

Physical examination showed matted glands in the axillae and râles throughout the chest. B. P. 112-58. There was a warm fluctuant mass with hardened edges, between the sixth and seventh rib on the left. Aspiration was done and 7 cc. of gray, odorless fluid was removed and replaced by lipiodol. The fluid showed no tubercle bacilli and no fungi. A diagnosis of cold abscess was made.

Dr. Lewis Bremer of the Harvard Medical School presented some of the work that he has been doing with motion pictures of living chick hearts. The pictures were made in the study of the reason for the division of the heart and the possible importance of the moving blood stream in the ultimate formation of its four chambers. The embryos were separated from the yolk and placed on glass slides where they will survive for some time before dying from drying and chilling.

The pictures demonstrated in a very vivid and remarkably clear way how the chick heart, starting out as a straight hollow tube, is gradually bent into a U shape and as the process continues is finally completely twisted on itself to form a transverse U and later a loop shaped heart. Motion pictures of the intermediate stages were shown. A very interesting series of films was that taken of a single embryo over a period of two hours. During this

time the heart starting with the U stage, passed through the transverse U stage and was practically a complete loop before death intervened. These changes occur in chicks between 40 and 48 hours old. A series of films showing the cessation of heart action upon the addition of various fixatives was shown.

The peristaltic movements of the hearts were clearly visible and as Dr. Bremer brought out, these movements are all of myogenic origin. There are no nerves present at this stage of development.

Dr. Ernest Falconer, of the University of California, spoke on the "Effects of Experimental Lead Poisoning on the Blood," quoting Blair Bell's observation that abortion frequently occurred in women with lead poisoning. This suggested that there was a possible toxic action on active immature cells. This study was undertaken to investigate the toxic action on immature bone marrow cells and to study the origin of the punctate basophilia so frequently seen in the red blood cells.

The observations were made on a single dog fed over a period of three years on lead as found in gunshot. Three months before the end of the study the dog began to develop anorexia, weakness and loss of weight. On a moderate intake of lead the red cells, platelets and hemoglobin decreased while the white cells remained at a normal level; at the end of three months stippled cells were present. When the dose of lead was discontinued there was a gradual rise in blood and hemoglobin while the number of stippled cells and reticulocytes decreased. During the last four months of the experiment the dog was given massive doses of lead. This treatment was followed by a sharp decrease of red blood cells and hemoglobin while normoblasts were found in great numbers. The white cell count paralleled the normoblasts. This increase in white cells is hard to explain but the bone marrow was apparently trying hard to replace the loss by a florid proliferation of young cells.

The relation between stipple cells and other basophilic elements is not clearly understood but it seems that young cells are closely related to other basophilic elements. Lead, too, apparently acts on the immature cells. Some think the basophilic staining is derived from the nuclear material while others think there is a definite connection between it and the reticular material.

Dr. Falconer then showed slides illustrating the blood picture at various stages during the observations. In conclusion he said that he had never published these observations because they were made only on one day but that he did feel that the blood changes in lead poisoning were due to a toxic action upon the young cells.

THE TRUDEAU SOCIETY

The twenty-fourth meeting of the Trudeau Society of Boston was held on January 16, 1931. This was a joint meeting with the New England Roentgen Ray Society.

The speaker for the evening was Dr. Henry P. Chadwick, Comptroller of Tuberculosis for the city of Detroit, Michigan. His subject was "The Childhood Type of Tuberculosis." This paper was discussed by Drs. Morgan, Hawes, Butler, Holmes, O'Brien, Watts and Sosman.

As this was the annual meeting, the following officers were elected for the next year:

President, Walter A. Griffin, M.D.; Vice-President, Roy Morgan, M.D.; Secretary, David Zacks, M.D.; Counsellor for three years, Charles A. Reiley, M.D.

The next meeting of the Society will be a joint meeting with the Greater Boston Medical Society which will be held at the Auditorium of the Beth Israel Hospital on April 7, at 8 P. M. The speaker will be Dr. Howard Lilienthal of New York City, whose subject will be "Bronchiectasis and Lung Abscess."

DAVID ZACKS, M.D., *Secretary.*

THE NEISSERIAN MEDICAL SOCIETY OF MASSACHUSETTS

The business meeting of The Neisserian Medical Society of Massachusetts, held February 11, 1931, was devoted entirely to the discussion of the constitution and its acceptance. Following the business meeting Dr. Taliaferro Clark, Assistant Surgeon General, U. S. Public Health Service, Washington, D. C., read a paper on "Some Public Health Aspects of Gonorrhea."* Following the paper there was generous discussion from the floor.

*See page 713.

THE SCIENTIFIC SESSION OF THE AMERICAN HEART ASSOCIATION

The Scientific Session of the American Heart Association will be held on Tuesday, June 9, 1931, from 10:00 A. M. to 5:00 P. M., in the Main Surgical Clinic of the Pennsylvania Hospital at Eighth and Spruce Streets, Philadelphia.

GREATER BOSTON MEDICAL SOCIETY

A joint meeting of the Greater Boston Medical Society, the Beth Israel Hospital and the Trudeau Society will be held on Tuesday, April 7, 1931, at 8:15 P. M. at the Beth Israel Hospital.

PROGRAM

Bronchiectasis and Lung Abscess, Dr. Howard Lilienthal, Consulting Surgeon to Mt. Sinai and Bellevue Hospitals, New York City.

Discussions: Dr. Wyman Whittemore, Dr. D. Campbell Smith, Dr. Mack H. Joress.

BERNARD I. GOLDBERG, M.D., *Secretary.*
483 Beacon Street, Boston, Mass.

SOUTH END MEDICAL CLUB

The next regular meeting of the South End Medical Club will be held on Tuesday, April 21, 1931, at 12 noon, at the office of the Boston Tuberculosis Association, 554 Columbus Avenue, Boston.

The speaker will be Charles W. McClure, M.D., Gastroenterologist to the Out-Patient Department of the Massachusetts Memorial Hospitals; Chief of Gastrointestinal Research Division, of Department of Biochemistry, Evans Memorial; and Visiting Physician to the Massachusetts Memorial Hospitals. His subject will be "Peptic Ulcer—Observations on Its Diagnosis and Treatment."

Luncheon will be served at one o'clock. All physicians are cordially invited to attend.

WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION

All Women attending the A. M. A. Convention, whether Auxiliary Members or not, are invited to participate in this entire program.

WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION

Ninth Annual Meeting

Philadelphia, June 8-12, 1931.

Headquarters, Bellevue-Stratford Roof Garden.

Registration Hours, daily 9 A. M. to 5 P. M.

All Meetings Will Begin Precisely at the Hour Indicated. Please Be Prompt.

PROGRAM

MONDAY, JUNE 8

12:30 P. M. In Honor of National Presidents, 1922-1932: Buffet Luncheon, Subscription —Roof Garden.

2:00 P. M. Three Round Tables, 35 min. each, 10 min. intermission—Roof Garden.

Subjects

1. Programs for County Auxiliary Meetings.
2. The Technique and Value of a Committee on Public Relations.
3. History and Archives.

6:30 P. M. Board Dinner, subscription—Red Room.

7:30 P. M. Board Meeting—Red Room.

TUESDAY, JUNE 9

9:00 A.M. General Meeting—Roof Garden.

12:30 P. M. Luncheon (Bellevue Special) — Roof Garden.

1:30 P. M. *Bus Trip to Valley Forge.
Tea in Log Cabin.
Hostesses, Berks, Chester, Delaware and Montgomery Co., Pa., Auxiliaries.

or

1:30 P. M. *Boat Trip on Delaware River, Tea on Board.
Hostesses, Bucks Co., Pa., Burlington, Camden and Gloucester Co., N. J., Auxiliaries.

or

2:00 P. M. Visit to Historical Society of Pennsylvania, 1300 Locust Street.
Special Docent Service.
Brief Address by Dr. Charles W. Burr of Philadelphia: "The Daily Life of the Colonial Physician."
Special Exhibitions on View throughout the Convention.

8:00 P. M. General Meeting of A. M. A.—Academy of Music.

10:00 P. M. Supper Dance—Bellevue Ball Room.
Hosts, The Philadelphia County Medical Society.

WEDNESDAY, JUNE 10

9:00 A. M. General Meeting and Election — Roof Garden.

12:30 P. M. Auxiliary Luncheon, Subscription — Rose Garden.
Guests and Speakers from A. M. A.
Music by Courtesy of the Delaware State Auxiliary.

2:30 P. M. Bus Trip through Historic Philadelphia, Fairmount Park and Germantown.
Hosts, The Philadelphia County Medical Society.
Tea at "Stenton."
Hostesses, New Jersey State Auxiliary.

8:30-11 P. M. Auxiliary Reception — University Museum.
Hostesses, Pennsylvania State Auxiliary.
Music. Special Docent Service.

THURSDAY, JUNE 11

9:00 A. M. Board Meeting—Red Room.

10:00 A. M. Meeting for All State and County Treasurers—Roof Garden.

10:30 A. M. General Round Table—Roof Garden.
Subject: "What Have I Gotten Out of the Convention?"
Opening of Question and Suggestion Box.

12:00 M. Luncheon (Bellevue Special) — Roof Garden.

1:00 P. M. *Bus Trip, "Longwood," Estate of Mr. and Mrs. Pierre S. du Pont.

or

2:30 P. M. *Visit to Fairmount and Rodin Museums.
Special Docent Service.

9:00 P. M. President's Ball — Benjamin Franklin Ball Room.
Hosts, American Medical Association.

FRIDAY, JUNE 12

9:30 A. M. †Bus Trip to Atlantic City, including Visit to Convention Hall, Ride in Wheel Chair (1 hour).
Luncheon at the Claridge.
Atlantic City Auxiliary in Charge.
Return at 5 P. M. or 10 P. M.

or

11:00 A. M. Trip through Wanamaker's with Luncheon in Crystal Tea Room.

*Bus transportation paid by members.
†Inclusive price $5.00.

Daily from 9 A. M. to 5 P. M. arrangements may be made at this Booth in the Roof Garden for golf, shopping, or any special trips desired, e.g., Historic Churches, Fairmount Park Mansions, Suburban Gardens, etc.

All tickets and invitations must be *procured in advance* in the Bellevue Roof Garden. Only programs will be obtainable elsewhere.

HARVARD MEDICAL ALUMNI ASSOCIATION

PROGRAM

Friday, April 17

Registration Bureau in Vanderbilt Hall. All must register.

Session in the Gymnasium

9:00 Dr. Elliott P. Joslin,
"The Treatment of Diabetes with a Demonstration of Cases."

9:45 Dr. Hans Zinsser,
"The Relation of Immunology to Clinical Medicine."

10:15 Dr. Walter B. Cannon,
"A Contrast of Old and New Teaching Methods in Physiology. A Brief Account of Some Recent Physiological Investigations." Illustrated by moving pictures.

11:30 Clinic in the Peter Bent Brigham Hospital Amphitheatre.
By Drs. Harvey Cushing and Henry A. Christian.

1:00 Cafeteria lunch in Vanderbilt Hall

2:00 Dr. Elliott C. Cutler (Western Reserve),
"The Present Status of Cardiac Surgery."

2:20 Dr. George R. Minot (H. M. S.),
"The Treatment of Anaemia." Lantern slides.

2:40 Dr. Otto Folin (H. M. S.),
"Blood Analysis; Its Present Status and Applicability."

3:00 Wilson G. Smillie (H. S. P. H.),
"Field Studies in Acute Respiratory Diseases."

3:20 Dr. Hugh Cabot (Mayo Clinic),
"The Place of Nephrostomy in the Management of Surgical Conditions of the Kidney."

3:40 Dr. Francis G. Blake (Yale),
"Host Factors in Pneumococcus Pneumonia."

4:00 Dr. Theobald Smith (Rockefeller Institute),
"Disease as a Biological Problem."

5:00 Business Meeting. Election of New Officers.

7:00 Dinner in Dormitory (Bowditch Hall)
Speakers: Dean Edsall, Dr. William S. Thayer, and President Lowell.

Saturday, April 18

9:00-10:30 Hospital Clinics. Palmer Memorial Hospital—Dr. D. F. Jones and staff.
Huntington Hospital—Dr. J. C. Aub and staff.
Deaconess Hospital—Dr. F. H. Lahey and staff.
Beth Israel Hospital—Dr. H. Blumgart and staff.
Children's Hospital—Dr. C. F. McKhann and staff.
Good Samaritan Hospital—Dr. Wm. D. Smith and staff.
Psychopathic Hospital—Dr. C. Macfie Campbell and staff.
Free Hospital for Women—Dr. Wm. P. Graves and staff.
Boston Lying-In Hospital—Dr. F. C. Irving and staff.

11:00-12:30 Massachusetts General Hospital—Dr. J. H. Means and staff.
Boston City Hospital—Dr. G. R. Minot and staff.

1:00 Class luncheons or dinners.

3:00-5:00 Inspection of new building at Boston Medical Library. Mr. James F. Ballard will demonstrate the Bullard collection of medical incunabula and rare and interesting books and prints from the 16th and 17th centuries.

BRISTOL NORTH DISTRICT MEDICAL SOCIETY

The annual meeting of the Bristol North District Medical Society will be held at the Taunton Woman's Club, Taunton, on April 16, at 6.30 p. m.

Dr. G. E. Haggart of the Lahey Clinic will speak on "The Treatment of Chronic Osteomyelitis."

J. L. MURPHY, M.D., *Secretary.*

MASSACHUSETTS GENERAL HOSPITAL

A Clinical Meeting of the Staff of the Massachusetts General Hospital, will be held in the Moseley Memorial Building, on Thursday, April 9, 1931, at 8:15 P. M.

PROGRAM

1. Postoperative Pneumonia and Collapse—A Clinical and X-Ray study of the Cases occurring at the Massachusetts General Hospital during the three years, 1928-1930.—Dr. Donald King.
2. Avertin Anaesthesia.—Dr. Grantley W. Taylor.

The discussion will be opened by Dr. Reid Hunt.

Physicians, Medical Students and Nurses are cordially invited to attend.

COMMITTEE ON HOSPITAL MEETINGS.

SOCIETY MEETINGS
CONGRESSES AND CONFERENCES

April 3—The Delta Omega Lecture. See page 690, issue of March 26.

April 7—Joint meeting of the Greater Boston Medical Society, the Beth Israel Hospital and the Trudeau Society. See page 742.

April 7, 8, 9—Annual Meeting of the American Association for the Study of Goiter. See page 690, issue of March 26.

April 8—New England Dermatological Society. See page 632, issue of March 19.

April 9—Massachusetts General Hospital. See notice above.

April 9—Medical Clinic at the Peter Bent Brigham Hospital. See page 741.

April 10—The William Harvey Society. See page 471, issue of February 26.

April 17-18—Harvard Medical Alumni Association. See notice elsewhere on this page.

April 21—South End Medical Club. See page 742.
April 22—The New England Obstetrical and Gynecological Society. See page 690, issue of March 26.
May 6—Cardiac Course. See page 854, issue of October 23, 1930.
May 11-14—Meeting of the National Tuberculosis Association at Syracuse. See page 1310, issue of December 25.
June 8-12—Woman's Auxiliary to the American Medical Association. See page 743.
June 8-14—International Hospital Congress. See page 521, issue of March 5.
June 9—The Scientific Session of the American Heart Association. See page 742.
June 16-19—Catholic Hospital Association. See page 690, issue of March 26.
July 6-11—Medical Clinic, Paris. See page 520, issue of March 5.
July 26-31—Third Congress of the Pan American Medical Association. See page 632, issue of March 19.
July 27-31—Third International Congress of Radiology, Paris. Complete notice appears on page 385, issue of August 21.
September 14-17—The American Public Health Association. See page 632, issue of March 19.

DISTRICT MEDICAL SOCIETIES

Bristol North District Medical Society

April 16—Complete notice appears on page 744.
September 17.

Essex North District Medical Society

Next meeting: Amesbury Country Club, Amesbury, May 13, 1931; dinner at 12.30. Speakers, Wm. H. Ross, President, New York State Medical Society, "A Medical Society's Public Relations Committee at Work."
Wm. J. French, Medical Director Commonwealth Fund, New York, "Fellowship Grants to Doctors in Rural Communities."

Essex South District Medical Society

Thursday, May 7—Censors meet at Salem Hospital at 3:30 P. M.
Tuesday, May 12—See page 690, issue of March 26.

Franklin District Medical Society

May—The meeting will be held on the second Tuesday of May at 11 A. M. at the Weldon Hotel, Greenfield.

Middlesex East District Medical Society

May 13—At Wakefield.

Norfolk District Medical Society

May—Annual Meeting. Date and details to be announced.
May 7—Censors' Meeting for examination of candidates at 171 Warren Street, Roxbury, 4 P. M. Candidates from schools on accepted list will forward application with certificate of graduation to the secretary at least one week prior to date of examination. Candidates from schools not on accepted list who have been in practice five years will forward applications together with five letters of recommendation from members in good standing in the Massachusetts Medical Society to Dr. P. P. Johnson, Cabot Street, Beverly, Mass., two weeks prior to date of examination. Fee for all candidates $10.00.

FRANK S. CRUICKSHANK, Secretary.

Norfolk South District Medical Society

Spring meetings are as follows:
April 2, May 7.
All meetings begin at 12 noon. Meetings will be held at the Norfolk County Hospital, South Braintree.
The censors will meet on May 7 at 11:30 A. M. at the Norfolk County Hospital, South Braintree.

NATHAN R. PILLSBURY, Secretary.

Suffolk District Medical Society

April 29—Combined meeting with the Boston Medical Library. This meeting will be held at 8:15 P. M. Election of Officers.
The medical profession is cordially invited to attend this meeting.

GEORGE S. DERBY, M.D.,
President, Suffolk District Medical Society.
LELAND S. McKITTRICK, M.D.,
Secretary, Suffolk District Medical Society.
HILBERT F. DAY, M.D.,
Boston Medical Library.

BOOK REVIEWS

The African Republic of Liberia and the Belgian Congo. Based on the Observations Made and the Material Collected During the Harvard African Expedition 1926-1927. Edited by RICHARD P. STRONG. Published by the Harvard University Press. In Two Volumes. 1064 pages. Price $15.00.

Under the leadership of Dr. Richard P. Strong, Professor of Tropical Medicine, Harvard University Medical School, the Harvard African Expedition crossed Liberia in three directions and then, entering the Belgian Congo, crossed the continent from west to east at about the level of the equator. Associated with Dr. Strong were Dr. George C. Shattuck, Dr. Max Theiler, Dr. Joseph C. Bequaert, Dr. Davis H. Linder, Dr. Glover M. Allen, Mr. Harold J. Coolidge, Jr., and Mr. Loring Whitman.

The Report of this expedition begins with a description by Dr. Strong of the geography, climate and inhabitants of Liberia. The government, customs, sanitary and medical conditions and problems of this country are taken up in considerable detail; many illustrations, as well as the matter in the text, make this section of the report a most interesting and valuable commentary. Part II of Volume I, written by Dr. Strong and Dr. Shattuck, deals with the medical and pathological investigations in Liberia and the Belgian Congo; many notable contributions to Tropical Medicine are recorded. This section also is profusely illustrated with photographs of pathological conditions in the living and with microphotographs of tissue sections.

Volume II consists of monographs on the mammals, birds, herpetology and entomology of the areas traversed.

Within the past few years, considerable attention has been attracted to the African Republic of Liberia from several standpoints. The activities of Mr. Firestone in developing rubber plantations have initiated an improvement in the manner of life of a considerable number of the people, and the appointment by the League of Nations of an International Commission to investigate enforced labor and slavery among the inhabitants promises to improve the conditions under which many of them live.

A scientific study of the country such as is reported by the Harvard African Expedition will most certainly prove of great value as a starting point for further investigation and much needed social, economic and sanitary reforms.

Lovett's Lateral Curvature of the Spine and Round Shoulders. Fifth Edition, Revised and Edited by Frank R. Ober, M.D., Assistant Professor of Orthopaedic Surgery, Harvard University; member American Orthopaedic Association and A. H. Brewster, M.D., Instructor of Orthopaedic Surgery, Harvard University; member American Orthopaedic Association; With two hundred and one illustrations. Philadelphia: P. Blakiston's Son & Co., Inc. Price $3.50.

The editors' dedication of this book to the memory of Dr. Robert W. Lovett is fitting, since both Dr. Ober and Dr. Brewster were for many years intimately associated with the author of the four previous editions. The fifth edition has been considerably enlarged by the inclusion of the methods of forcible correction practiced by the famous Italian Galeazzi and the so-called turn buckle jacket method devised and practiced by Dr. Lovett and his associates. The portion of the book devoted to ex-

ercises has been practically rewritten with the assistance of Miss W. G. Wright, who for many years was in charge of the physiotherapy of Dr. Lovett's private practice. The editors have republished without change Lovett's fundamental experimental work, believing that it still forms the basis of our present knowledge of lateral curvature of the spine and in itself justifies keeping the book alive.

The excellent chapters on the History of Scoliosis and on the Anatomy and Movements of the Spine have been retained, as have the chapters of the Mechanism of Lateral Curvature, the methods of Examination and Recording and the Symptoms, Pathology, Etiology, Diagnosis and Prognosis. Nearly half the book is devoted to methods of treatment, the details of which are clearly described in the text and well illustrated. The eager school of operative treatment by means of bony fusion will be disappointed that more space is not given to this method and that a stronger brief has not been written for its employment. There is no note of pessimism in the book, but the seriousness of a marked structural scoliosis is emphasized and the difficulties of its treatment are faced squarely. It is frankly admitted that complete anatomic correction is often impossible. This seems to make the argument for wise and prolonged treatment the sounder.

In a book dealing with round shoulders, more space might well be given to the subject of poor posture and the whole question of body mechanics in relation to its preventive aspects and its influence upon the health and well-being of children and adults.

We agree with the editors of the fifth edition that the book should be kept alive. It represents the best short monograph on the subject of lateral curvature of the spine with which we are familiar.

Chininum. Chinin in der Allgemeinpraxis unter Berücksichtigung Pharmakologischer Befunde. By Dr. Med. Fritz Johannessohn. The Bureau for Increasing the Use of Quinine. Amsterdam—W. 1930.

This publication is frankly devoted to increasing the use (and sale) of quinine for medicinal purposes. It is essentially a compilation of the literature favorable to the therapeutic usefulness of quinine and a few of its derivatives; no attempt, however, is made to belittle the untoward and toxic actions of the drug. The literature seems to be well covered; there are 652 references to quinine and 157 to quinidine. Only seven of the 232 pages of the book are devoted to the most important use of quinine—the prophylaxis and treatment of malaria; this use no longer needs advertising. The remainder of the work treats of the distribution of quinine in the body, its excretion and its recommended use in a great variety of conditions (pneumonia, bronchitis, Graves Disease, etc.), as a local anesthetic, as an oxytocic, etc. The literature seems to be fully and fairly presented.

It is perhaps rather unfortunate that a monograph on quinine should treat of only immediately practical questions. With the possible exception of the anesthetic and antiseptics perhaps the introduction of no other drug has so profoundly influenced medicine as did that of quinine. Thus Professor W. H. Welch recently "ventured the opinion that the introduction of cinchona in the seventeenth century had a greater practical influence in overthrowing medieval Galenism and its traditional theories than the more academic work of Vesalius and Harvey", and that "The efficacy of cinchona in curing intermittent fevers . . . focussed medical attention not only upon 'specifics' for various diseases, but also upon the possibility of a 'specific' cause for each ailment." This statement is worthy of special emphasis, for this conception of the nature of many diseases is the forerunner of the views of Pasteur and Lister upon which much of what is modern in medicine rests.

Copies of the work may be obtained free of charge from the Bureau, P. O. Box 215, Amsterdam—W. Holland.

Historic Artificial Limbs, with 11 illustrations. By Vittorio Putti. Paul B. Hoeber, Inc., New York, 1930. Price $1.50.

The history of artificial limbs represents an interesting but little known chapter in the history of surgery. It is also an important one because the development of artificial appliances paralleled and reflected the progress made in the art of performing amputations, operations which until the last century were the most important ones of surgery.

In this essay an eminent orthopaedic surgeon with a profound knowledge of amputations and artificial appliances summarizes from the literature what is known of ancient appliances and describes for the first time several examples of antique prosthesis that have recently come to light in the Museo Stibbert in Florence and the Museo-Poldi-Pizzoli in Milan. The description is supplemented by photographs and mechanical drawings. The book affords profitable and interesting reading for an evening, and throws open a wide door for the contemplation of the past.

BOOKS RECEIVED FOR REVIEW

Die Eigennamen in der Krankheitsterminologie by I. Fischer. Published by Verlag Von Moritz Perles. 143 Pages.

Röntgenatlas der Lungenerkrankungen by Dr. W. Brednow and Dr. E. Hofmann. Published by Urban & Schwarzenberg. 167 Pages.

Roentgen Interpretation. A Manual for Students and Practitioners by George W. Holmes and Howard E. Ruggles. Fourth Edition. Published by Lea & Febiger. 339 Pages. Price $5.00.

Quantitative Clinical Chemistry. Volume 1. Interpretations by John P. Peters and Donald D. Van Slyke. Published by The Williams and Wilkins Company. 1264 Pages. Price $12.00.